

EMERGENCY TOWING ARRANGEMENTS "HERMES" "HERACLES" & "ZEUS"

INSTALLATION & MAINTENANCE

1) FOREWORD

Emergency Towing Arrangements (ETA) "HERMES" & "HERACLES" are designed and produced by POSIDONIA SRL, Genoa (Italy) in accordance with IMO Resolution MSC 35(63) dd 20th May 1994. (regulation V/15-1 of the 1974 SOLAS Convention).

The arrangements are produced in two sizes :

- 1000 kN SWL for tankers over 20.000 tdw but less than 50.000 tdw .
- 2000 kN SWL for tankers equal or over 50.000 tdw.

According to IMO requirements the minimum breaking load of all the components is the double of the safety working load (SWL).

Each size has two versions :

- "HERMES" for tanker's stern installation (AFT) .
- "HERACLES" or "ZEUS" for tanker bow installation (FWD).

1.1) HERMES AFT.

The "HERMES" AFT system includes a cone bracket strongpoint, a pennant cable with sockets, a cable drum with deployment control brake and a specially reinforced fairlead. Strongpoint and fairlead structures are provided with base plate to be inserted in the tanker's deck, whilst the drum frame is to be simply chocked and welded to the deck.

A case containing the pick-up gear with flashing buoy and special shackle for connection to the pennant cable is also part of the supply and is to be fitted on the rail, close to the fairlead.

The case is supplied with stainless steel pick-up buoy and pick-up cable jagged inside with abt. 5 m extension outside the case to be connected to the pennant socket outside the strongpoint.

An air motor with reduction gear can be supplied as optional device for winding the pennant wire on the drum. The unit air motor-reduction gear is provided with a bolting base to be connected to the drum frame and a hexagonal pin to be connected to the drum shaft. To operate the air motor 2500-3000 litre/min of air at 4-6 bar and a 1" hose are to be provided at least. The air hose is to be connected to the air motor inlet port, whilst the silencer is to be connected to the outlet port. The unit can operate in both directions (winding and unwinding) simply

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by changing the connections of the air hose and the silencer.
or alternatively :

an unpowered retrieving device (retrieving drum), composed by :

- a secondary drum c/w steel structure for coupling to the drum support
- 120 m of 14 mm dia wire rope:

By unrolling the secondary drum by a pedestal roller and a ship's winch, the main drum will recover the steel towing pennant rope (3 tons pull winch is required)

1.2) HERACLES FWD.

The "HERACLES" FWD system includes a bracket & pin strongpoint, a chafe chain complete with a standard pear shaped link at one end and open end suitable for joining to the strong point at the other end, and a specially reinforced fairlead. Both structures are provided with base plate to be inserted in the tanker's deck.

1.3) ZEUS

Posidonia supply includes also the "ZEUS" FWD chain stopper suitable to be used for ETA forward for all tankers size being designed and tested for 2000 kN SWL.

The "ZEUS" FWD System includes a special chain stopper as strongpoint, a chafe chain and a specially reinforced fairlead. Both structures are provided with base plate to be inserted in the tanker's deck.

2) INSTALLATION

Installation on board is to be carried out according to the drawings provided by POSIDONIA on the basis of the ship's structural plans received by the Owner, who, in collaboration with Posidonia, has to get the approval from the Class Society.

All other structural additional reinforcements, fabricated of " A" class type steel, are to be fitted and welded on board in way of the strongpoint base plate and the fairlead, in accordance with the above drawings.

2.1) HERMES AFT .

The case containing the pick-up gear flashing buoy and special shackle for connection to the pennant cable is to be fitted on the rail or bulwark, close to the fairlead. Suggested position for the case is abt. 2 m portside of the fairlead centre line.

The strongpoint and the drum with the pennant are despatched separately for easier installation, the drum is also supplied with band brake in closed position.

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To put the system in operating conditions it is necessary to :

- Open the strongpoint by removing the horizontal pins and the two bottom blocks.
- Loose the band brake by unscrewing both lever and fulcrum nuts .
- Unwind few meters of pennant wire rope from the drum.
- Pass the pennant socket through the strongpoint .
- Install again in place the strong point's bottom blocks together with the horizontal pins.
- Tighten the pennant between the strongpoint and the drum by winding it on the drum. The air motor or the retrieving drum are optionally provided for this task.
- Regulate the band brake by tightening the fulcrum nut to 400 Nm and the lever nut until the bottom of the nut itself is in line with the metal mark.
- If the case content has been removed, follow the following instructions to arrange the pick-up gear correctly :
 - . keep the special pennant shackle with abt. 5 m cable outside the case ;
 - . pass the cable through the notch ,
 - . jag the cable in "8 shape" coils;
 - . fit in the pick-up buoy, topside down, between the "8 shape" coils ,
 - . connect the end cable shackle to the bottom buoy eye ;
 - . pass the pennant shackle and cable through the fairlead from outside ;
 - . connect the pennant shackle to the pennant socket.

NOTE :

The shackle connecting the pick-up cable to the pennant outboard socket may be disconnected temporarily, only in harbour, to use the fairlead for mooring purpose, under the Master's responsibility. A member of the crew must be appointed to take care of quick connection in case of emergency.

2.2) HERACLES FWD.

For the "HERACLES" FWD system, the end link of the chafe chain is to be connected to the strong point pin and the chain stowed on deck, ready to be employed with the free pear shaped link on top. The moving and the connection of the chafe chain can be done by hand, using ropes, or by ship's winch and pedestal rollers.

2.3) ZEUS FWD

For the "ZEUS" FWD system, the end link of the chafe chain is to be connected to the chain stopper and the chain stowed on deck, ready to be employed with the free pear shaped link on top.

3) OPERATION.

In case of emergency , the following instructions are to be carried out to operate the systems :

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3.1) HERMES AFT.

For the "HERMES" AFT systems the pick-up gear case is to be opened and the flashing buoy will fall down to the sea together with the pick-up rope, already connected to the pennant outboard socket. As soon as the tug picks-up the flashing buoy and starts pulling the pick-up rope, the drum, due to the brake, will pay out the pennant wire in a controlled manner, until the inboard pennant socket, guided and tensioned by the end sling, will match and stop in the cone-bracket strongpoint.

The tug can start towing safely, as soon as the outboard pennant socket has been hauled on board on the tug and connected to the towing gear.

3.2) HERACLES FWD.

For the "HERACLES" system, the end link of the chafe chain is to be inserted into the pin of the strong point and the chain stowed on deck ready to be deployed with the free pear link on top. The moving and the connection of the chafe chain can be done by hand, using ropes, or by ship's winch and pedestal rollers.

3.3) ZEUS FWD.

For the "ZEUS" system, the end link of the chafe chain is to be inserted into the stopper and the chain stowed on deck ready to be deployed with the free pear link on top. The moving and the connection of the chafe chain can be done by hand, using ropes, or by ship's winch and pedestal rollers.

4) MAINTENANCE.

To keep the systems in good operating conditions, the following maintenance instructions are to be carried out :

4.1) HERMES AFT.

"HERMES" AFT ETA system is to be inspected weekly to check the availability of all components.

The lubrication of the messenger box rotation and cover hinges must be verified and restored periodically.

If the bow shackle connection has been disconnected to use the fairlead for mooring operation, the crew must check that the connection has been carried out before the tanker's departure.

The battery in the flashing buoy must be replaced every six months (use three 1.5Valkaline batteries).

The drum brake regulation is to be checked every six months to prove, by a

dynamometer, that the drum starts paying out the pennant at 10-20 kN for "HERMES 1 .000" and 20-30 kN for "HERMES 2.000" . the brake tension regulating nuts are to be tightened or released to meet above requirement.

Every two years :

- the drum brake is to be released and the brake band removed to clean the drum brake groove surface;
- the pennant wire is to be checked, greased with standard wire cable products and wound again
- the brake band is to be refitted and the brake to be regulated as above.

If the air motor/reduction gear winding device has been provided, the motor and the gear are to be checked as per enclosed maker's maintenance instruction.

4.2) HERACLES FWD.

"HERACLES" FWD ETA system is to be inspected weekly to check the correct chafe chain stowage and the pin securing devices in place.

4.3) ZEUS

"Zeus" system is to be inspected weekly to check the connect chafe chain storage and the pawl and lever closure.

Genoa, March 1998.



