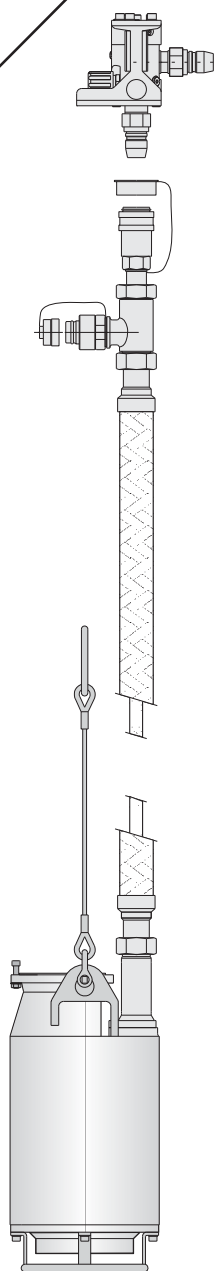


Service Bulletin

Framo Portable Cargo Pump



The Framo Portable Pump and auxiliary equipment, is an important back-up for your cargo pumping system. We would therefore highlight the following:

- ✓ Correct storage onboard
- ✓ Testing of portable cargo pump.
- ✓ For more information see also:
 - ✓ Instruction for TK80-2
No. 1150-0024-4
 - ✓ Instruction for TK150-2
No. 1150-0025-4



TK150-2

TK80-2



STORAGE ON BOARD

The portable pumping equipment must be stored easily accessible in a clean and dry area. The concentric hose can be stored on a suitable hose reel, or on brackets on the bulkhead, or lying in a shelf.



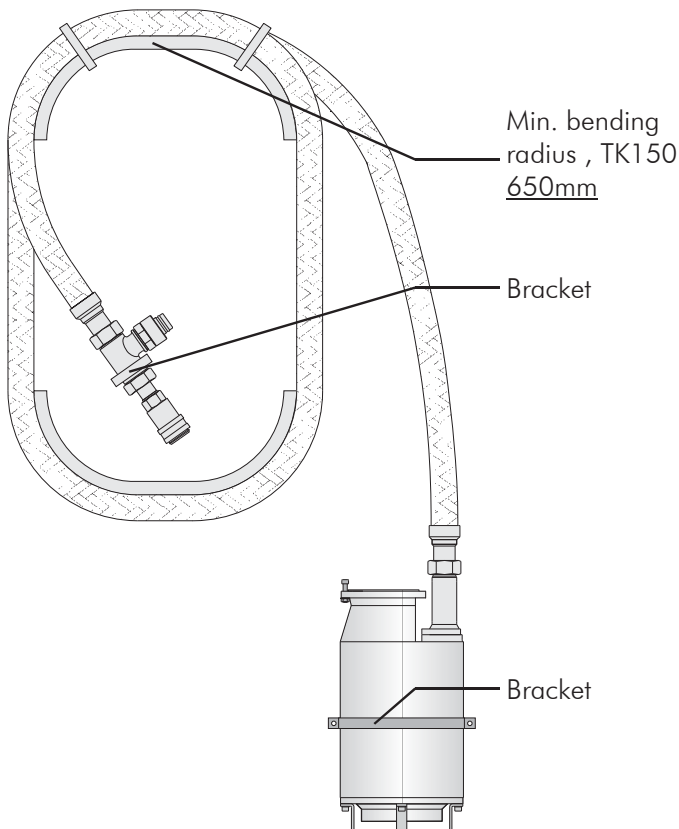
The pump and hoses must always be safely supported and fastened in order to avoid wear or damages due to ship movements. It is especially important that the hoses are not hanging or laying over sharp edges, or that sharp objects are placed upon them. The bending radius for the hoses during storage must not be less than specified.

TK80: min bending radius: 500 mm
TK150: min. bending radius: 650 mm

The equipment box is delivered with a bracket for installation in a fixed location close to the portable pump.

The portable winch must be safely supported and fastened in order to avoid wear or damages due to ship movements.

Example:
Storage TK150.



Note! If metal braided hoses (corrugated) are used, either as cargo hose or hydraulic hose; this must be thoroughly cleaned on the outside with fresh water after operation and prior to storage. This to avoid any corrosion between braiding and the corrugated hose.

Do not use sea water for testing or cleaning portable pump.



TESTING OF THE PORTABLE PUMP

We recommend to run a function and drill test of the portable pump once a year according to the following procedure:

- The pump discharge flange to be equipped with a blind flange. Install a "Minimess" test coupling and a "Minimess" test hose (equipment in the Test kit) on the blind flange.
- Hoist the portable pump into a drum containing fresh water.
- Connect the extension hoses to the hydraulic ring line. Note! First connect the return hose, then connect the pressure hose.
- Start the pump slowly, and run with low speed. Check if the pressure gauge on the control valve is working. When water is flowing from the test hose, connect a pressure gauge.
- Increase speed until rated discharge pressure, or to max. 5 barg discharge pressure. Operate at this speed only for a short period.
- Check for hydraulic oil leakages on all connections.
- Reduce speed and stop the pump.
- Disconnect the extension hoses from the hydraulic ring line. Note! First disconnect the pressure hose, then disconnect the return hose.
- Drain off approximately one cup hydraulic oil from each of the extension hoses and from the concentric hose.
- Check cofferdam on pump head for leakage.

TK 150: remove impeller nut and raise pump head to vertical position.

TK80: remove cofferdam plug and tilt pump to horizontal position.

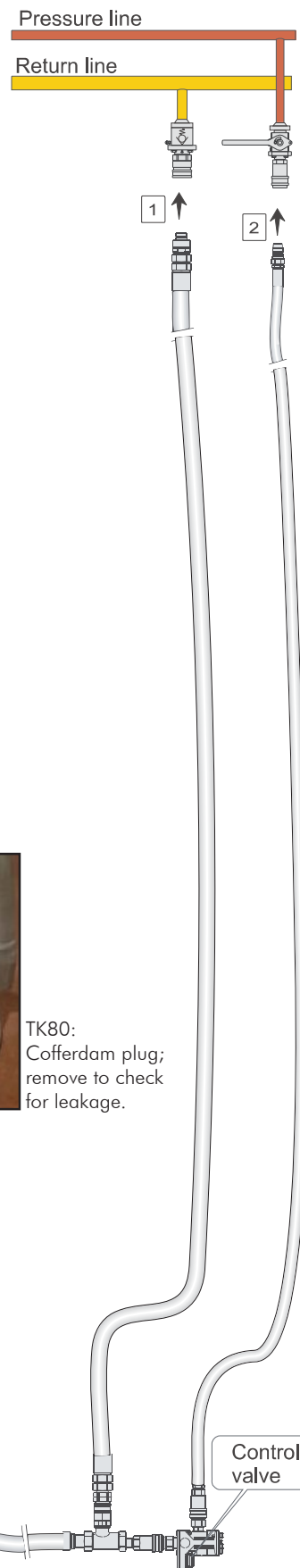
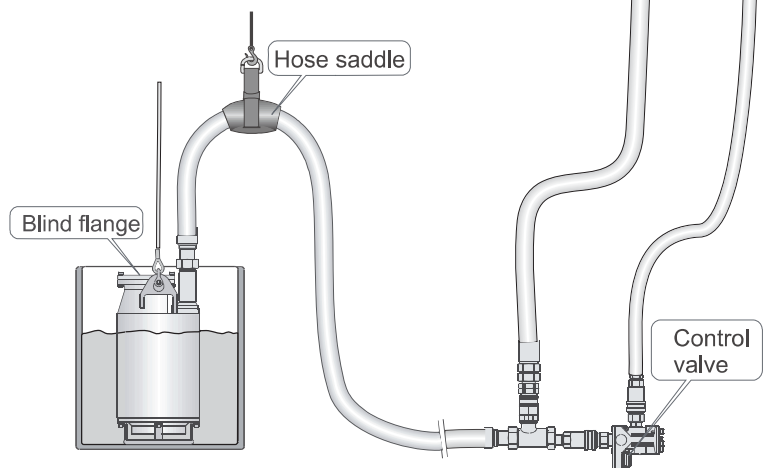
- If excessive leakage is noted, actions must be taken.
- Make a visual control of the complete unit.
- The cargo hose for the portable pump to be tested and maintained according general in forced rules and procedures valid for cargo hoses onboard the vessel.



TK150:
Remove impeller nut with bolt and o-ring to check cofferdam.
Reinstall using Loctite 222 and 68 Nm torque.



TK80:
Cofferdam plug; remove to check for leakage.





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