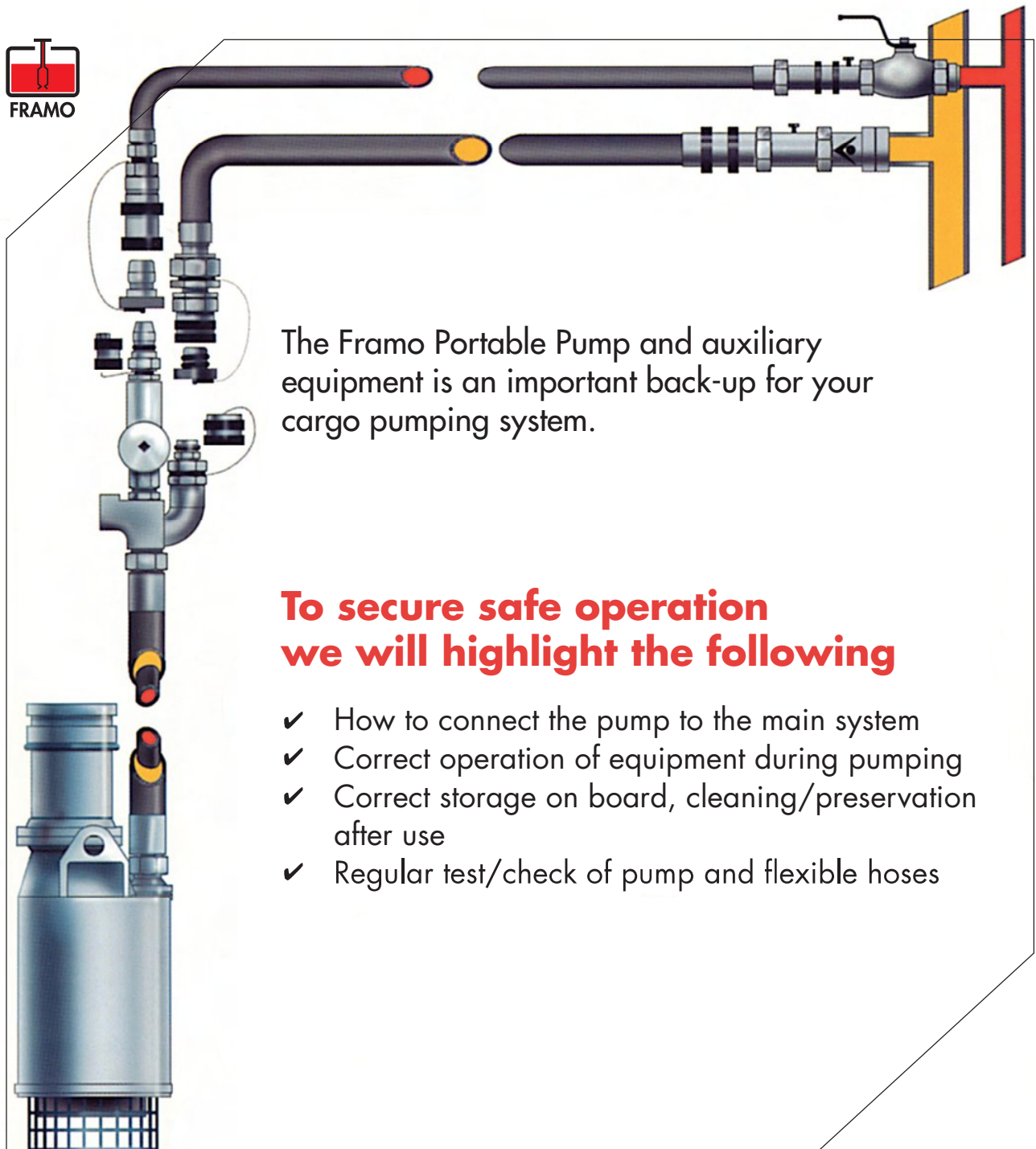


Service Bulletin

Framo Portable Cargo Pump



The Framo Portable Pump and auxiliary equipment is an important back-up for your cargo pumping system.

To secure safe operation we will highlight the following

- ✓ How to connect the pump to the main system
- ✓ Correct operation of equipment during pumping
- ✓ Correct storage on board, cleaning/preservation after use
- ✓ Regular test/check of pump and flexible hoses



General

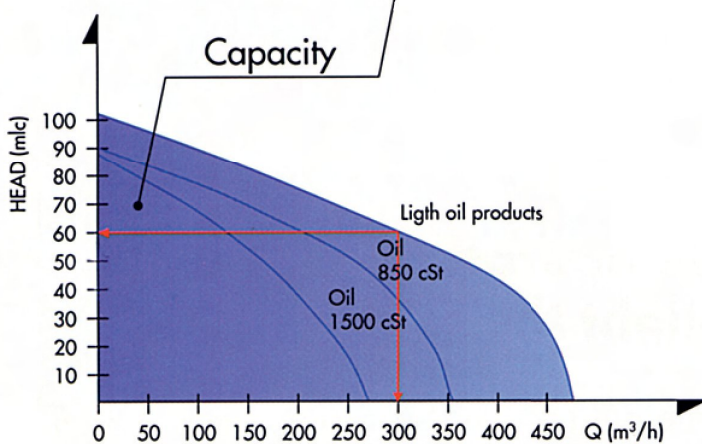
Framo Portable Pump is normally supplied as a part of our cargo pumping systems for stand-by and safety applications according to classification societies.

In addition, the equipment is also supplied separately to coastguards, salvage companies, refineries and terminals all over the world - and also available for rental world-wide.

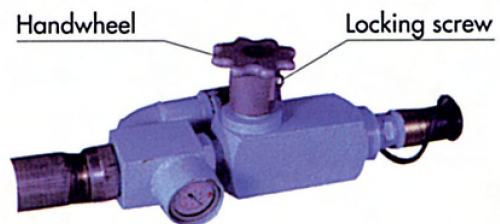
Ranges of portable pumps produced by Framo have been up-graded and redesigned many times over the last 30 years, but for all types of portable pumps supplied as part of our cargo pumping systems spare parts and service are available world-wide if needed.

Range of transportable pumps per today:

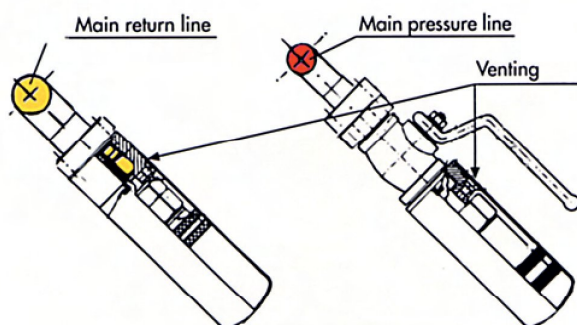
TK 80	TK 150	LN150	TK 6	TK200
				
70 m ³ /h	300 m ³ /h	150 m ³ /h	500 m ³ /h	800 m ³ /h
70 mwc	60 mwc	47 mwc	40 mwc	25 mwc



Flow control-valve/Starting head



The portable pump is equipped with a flow control valve for start/stop and stepless regulation of pump capacity from zero to maximum.



Snap-on coupling-station (latest design)

- Connect return side first - then the pressure side.
- The back - pressure must be zero.
- Use the venting plug to release the pressure.

Highlights/advise for handling and operation of Framo Portable Pump

A) How to connect the pump to the main system

- 1) Always connect the snap-on coupling on the return side first.
- 2) Then connect the pressure side in the same way.
- 3) Be sure that the snap-on couplings are secured by means of the locking ring and that the locking screw on the starting head (flow control valve) is secured.
- 4) Start the pump slowly and run it on deck for about 30 seconds to make sure that oil flow is free and the pump runs normal,- flush the seal area with water.
- 5) Never hook-up the portable pump to the main system without using a flow control valve for speed control of the portable pump!

B) Correct operation of equipment during pumping

Handling:

- Lower the portable pump into the cargo tank by means of a sling, and never by the hoses.
- For easy and controlled handling of pump and hoses in/out of tank use the Framo portable hoist.



- The portable pump to be placed on the tank top in a vertical position.
- Secure the cargo hose and hydraulic hoses at the tank hatch on deck to avoid stress on the portable pump and to avoid the pump tipping over.
- Materials in the portable pump are of stainless steel AISI 316L, and the flexible hydraulic hose neoprene rubber as a standard.
- The portable pump parts exposed to cargo resists most chemicals and acids, but the neoprene rubber in the flexible hoses has some limitations.
- For frequent discharge of cargoes with destructive effect on the neoprene hoses, Framo can offer special chemical resistant, or stainless steel protection hoses.
- Another alternative is to avoid contact between the cargo and the flexible hoses by lowering the pump with liquid level in tank. Some companies are using this as a standard routine, but here the operator must pay extra attention to avoid dry running of the portable pump.

Starting - Discharging:

- Start the portable pump by turning the handwheel on the starting head anti-clockwise
- Discharge capacity will increase if the back pressure is reduced to a minimum. If possible use the portable pump to transfer the cargo to another cargo tank and discharge the cargo ashore with the main cargo pump.

C) Cleaning/preservation after use

Stopping:

- Stop the portable pump - by closing the flow control valve.
- Close the ball valve on pressure side snap-on coupling station.
- Relieve the pressure in the hose by opening flow control valve a short period of time.

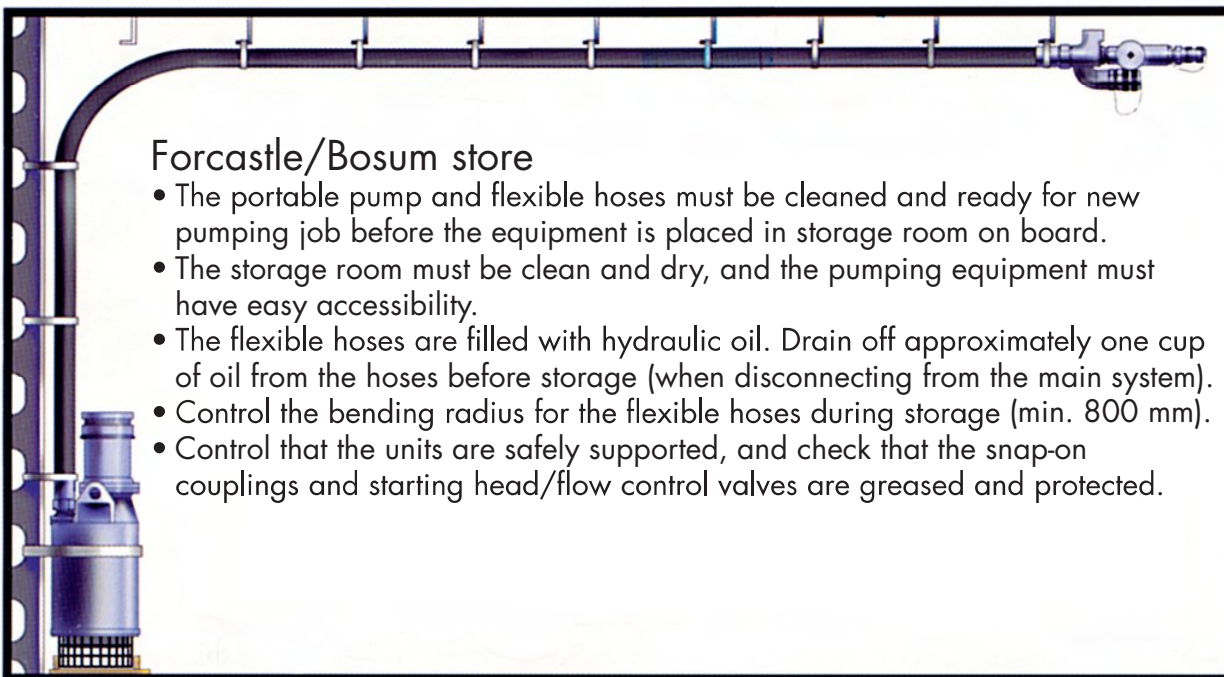
Cleaning:

- For cleaning the pump inside, run the pump in fresh water in a drum on deck.
- For cleaning the pump and hoses outside, use steam or flush with fresh water, according to what type of cargo has been discharged.

Disconnection:

- Disconnect the pressure snap-on coupling first.
- Drain off approximately one cup hydraulic oil from the flexible pressure hose.
- Check that the snap-on coupling is clean and corrosion protected (greased).
- Put on the protection cover.
- Disconnect the return side snap-on coupling the same way.

D) Storage on board





Preventive Maintenance, Routine Testing of the portable pump unit

QUARTERLY CHECK ROUTINES

- Control the snap-on coupling on deck.
- Remove the protection cover – drain off any water – check o-rings – move the ball valve and all the moving parts – grease the units.
- Control portable pump unit with flexible hoses and starter head in storage room.
- Check that the unit is supported safely.
- Check the flexible hoses and be sure that the hydraulic pressure inside is relieved (maximum 6 bar).
- Check the snap-on couplings and the starting head and repaint or grease if necessary.

TESTING OF THE PORTABLE PUMP

- Once a year we recommend to run a function, capacity and drill test of the portable pump.

Do not use sea water for testing.

- Hook up the unit to the main system as a standard routine.
- Hoist the portable pump into a drum of fresh water or in an available cargo tank with fresh water.
- Run the pump, control that the locking screw on the starting head is in a correct secured position to prevent the hand wheel from turning off.
Never start the pump if the locking screw is missing.
- Control the hydraulic pressure and if possible the pump capacity.
- Make a visual control of the complete unit, control for any hydraulic oil leakage.

Frank Mohn Services AS can offer you this test, or we can offer the test combined with a one day training and drill test of the crew when the ship is in Rotterdam, Houston or Singapore. If you are interested, please do not hesitate to contact Frank Mohn Services AS for more information.



Frank Mohn Services AS

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