1. INTRODUCTION

We congratulate you on this purchase. Read the instructions before using the tool. The user manual covers all relevant aspects for safe and optimal use of this tool.

This pump is suitable for driving both single and double-acting (design with discharge and return hose) hydraulic tools operating on mineral oil and suitable for an allowable operating pressure of 720 bar. The maximum available oil volume of the pump is 300/700/900/2200 cc. The pump can not be used for equipment which requires more oil volume. See Table 1 “technical data”, page 49 for further details.

1.1 Disclaimer

 Holmatro reserves the right to modify or alter parts of tools without prior notification. The contents of this user manual can likewise be modified at all times. This user manual is based on and is related to the models manufactured at this moment and legislation currently in force. Holmatro accepts no liability whatsoever for possible damage resulting from the use of this user manual with respect to any equipment supplied or possibly to be supplied, subject to intent or gross negligence on the part of Holmatro. For detailed information about the use of the user manual, maintenance and/or repair of Holmatro equipment, the Technical Service of Holmatro or the official, appointed distributor must be contacted. All possible attention has been given to the composition and precision of this user manual. However, Holmatro cannot be held liable for errors and omissions or obligations arising from its use. If the correctness or completeness of this user manual is unclear, you must contact Holmatro.

2. PRODUCT IDENTIFICATION

A. Pump lever
B. Handle
C_1. Pressure relief valve, high pressure
C_2. Pressure relief valve, low pressure
D. Pressure relief valve
E. Engine oil dipstick/filling nozzle
F. Oil tank
G. Pump handle lock
H. Skid
I. Carrying handle
J. Vent
K. “High-flow” coupling, male
L. AutoLock coupling, male
M. AutoLock coupling, female
N. High-pressure hose

The pump may be provided with:
1. one “High-Flow” coupling immediately on the pump
2. one high-pressure hose and one male “High-Flow” coupling
3. one male AutoLock coupling immediately on the pump
4. one high-pressure hose and one AutoLock coupling
5. two AutoLock couplings immediately on the pump
6. one double high-pressure hose and AutoLock couplings

3. OPERATION

Oil is drawn under the pump plunger from the oil tank by moving the pump handle upwards. By moving the pump handle downwards the oil is pressed into the system under the pump plunger.

4. USE

!!! Never fit extension pieces to the pump handle. Extension pieces lead to the pump being instable during operation.

!!! The stroke must be short to reduce the force applied to the handle at high pressure. The most effectieve pumping action is achieved in the last 5 degrees of the stroke.

4.1 Initial Use (first time only)

* Check the equipment for damage. Do not use the equipment if it is not in good condition. Notify the supplier.
* Check the oil level in the pump.
* Always use the manual pump with its casing below the oil filling cap/dipstick.

* Fit a hydraulic high-pressure hose or a “High-Flow”/quick-action coupling to the pump using PTFE tape (if required)
* Always check whether the operating pressure is still at its correct setting after fitting the hydraulic hose and/or the couplings. The low pressure relief valve (set screw C_2) must be between 30 an 40 bar and the high pressure relief valve (set screw C_1) must be between 700 and 750 bar. Never exceed 750 bar! Turning the set screw clockwise increases the pressure. The pressure is reduced by turning the set screw anti-clockwise.

4.2 Preparation for use

Coupling (High-Flow coupling), see Fig. 1
The unit is equipped with female High-Flow couplings. The hydraulic (discharge) hoses of the pump are equipped with male “High-Flow” couplings. The hydraulic (return) hoses are equipped with female “High-Flow” couplings.
* Never use pliers or similar to connect the High-Flow couplings.
* Check whether the pressure relief valve is in its open/release position. Never connect the couplings if it is in its operation position.
* Remove the dust caps from the High-Flow couplings and screw them together to prevent fouling.
* Insert the male coupling into the female coupling and tighten the locking ring as far as possible.
* Repeat this procedure for all High-Flow couplings.

Coupling (Auto Lock coupling), see Fig. 2
The unit is equipped with “AutoLock” couplings - one male and one female.
* Check whether the pump is in its neutral/release pressure relief position. Never connect the couplings if the pump is switched to operation.
* Remove the dust caps from the couplings and put them into each other to avoid dirt.
* Insert the couplings into each other.
* Pull both couplings to check whether the couplings are properly connected and to check whether the retainer ring sits in the correct position.
* Repeat this procedure for all couplings.

Use
Release the transport hook, open the vent valve (hHTW 700) and set the pump in its closed/operation posi-tion. Move the pump handle up and down so that the jack/tool will respond. The pump casing must be below the oil filling cap during pumping to allow the maximum oil volume to be used.
!!! The pressure developed in the pump may be released By switching the pressure relief valve in its open/release position, (for instance when pressure has developed and no tool is connected).

Stopping the work
Store the hydraulic tools in its original home position. See also operating instructions for the relevant jacks/tools.

Disconnection (High-Flow coupling), see Fig. 3
* First check whether the pressure relief valve is in its open/release position.
* Unscrew the locking ring. The male coupling will then be released.
* First remove any dirt from the couplings and dust covers to prevent contaminants from penetrating the hydraulic system.
* Disengage the dust covers and replace them at the relevant High-Flow couplings.

Disconnection (AutoLock coupling), see Fig. 4
* First check whether the pump is in its neutral/release pressure relief position.
* Turn (1) and slide (2) the ring of the female coupling backwards. The male coupling will come off.
* First remove any dirt from the couplings and the dust caps to prevent it entering the hydraulic system.
* Separate the dust caps and replace them on the relevant couplings.

Oil refilling
The oil tank can be filled through the opening (E) in which the dipstick is fitted.

Venting the pump
Venting is required if:
* The pump was not positioned with its casing facing down during transport.

* The pump has been subjected to severe vibration during transport.
* The oil volume has been completely used up and the tank emptied.
* The pump was dismantled.
* A hose is connected to the pump and must next be filled with oil.

Venting is carried out as follows:
* Switch the pressure relief valve in its open/release position.
* Place the pump in a vertical position
* Then move the pump handle up and down 5 times
* Repeat this procedure, if necessary

Cleaning and storage
* Clean the tool and any accessories used before storage.
* Clean the couplings. Ensure that the dust caps are fitted.
* Return the pump handle to its horizontal position and apply the pump handle lock.

5. TROUBLESHOOTING

In case of failures or repairs, always specify the model and serial number of the equipment to the supplier.

Problem		Possible reason		Measure	
1.	The plunger of the hydraulic tool does not move, moves slowly or irregularly.	1.	Check the pump oil level.	1.	Add the correct hydraulic oil to the pump (See Table 1).
		2.	Check the pressure relief position on the pump.	2.	Set the pump in its operation/closed pressure relief position.
		3.	Check all couplings.	3.	Tightly connect loose couplings.
		4.	Excessive load.	4.	Do not attempt to lift a load higher than the allowable value.
		5.	Air in hydraulic system.	5.	Vent the hydraulic system (see section “Venting”).
		6.	Plunger seized in the cylinder.	6.	Contact your supplier.
2.	The plunger of the hydraulic tool extends but does not keep its pressure.	1.	Leaking connections.	1.	Tightly connect loose couplings.
		2.	Leaking seals.	2.	Contact your supplier.
		3.	Internal leakage in the pump.	3.	Contact your supplier.
3.	The plunger of the hydraulic tool does not retract, retracts slowly or slower than normally.	1.	Check whether pressure is available in the system.	1.	Depressurize the system by opening the pressure relief valve.
		2.	Check all couplings.	2.	Tightly connect loose couplings.
		3.	Air in hydraulic system.	3.	Vent the hydraulic system (see section “Venting”).
		4.	Cylinder return spring is broken or other damage to the cylinder.	4.	Contact your supplier.

Consult your supplier in case of other defects and if the solutions provided do not have the required results.

6. MAINTENANCE

Wear personal protection equipment during maintenance. Ensure that any spent replaced hydraulic oil is collected and disposed of in a responsible manner. Remember the environment.

6.1 Regular maintenance (minimum every 3 months)

It makes sense to carry out maintenance on a regular basis. At least once a quarter, depending on the use.
* Check the operation of the equipment.

For cleaning AutoLock couplings see Fig. 5

Regularly check and clean the couplings to ensure that the automatic locking system will continue to operate properly.
1. Rinse the coupling with luke warm water and a soft soap solution.
2. Lubricate the end (A) of the coupling with hydraulic oil or inject WD-40 when the coupling is dry.

3. Lubricate the locking ring by injecting WD-40 into the space (B) between the back section and the locking ring.
4. Connect the couplings and check whether the coupling locks automatically. Check the locking by pulling the locking ring straight back. The couplings must not slip.
5. Detach the couplings by turning the locking ring and pulling it backwards.
6. Repeat steps 4 and 5 a few times to improve the internal lubrication of the locking system.

6.2 Annual maintenance

Many years of safe use is guaranteed if the unit is properly cared for and maintained. To this end the unit must be inspected at least once a year. This must be carried out by a trained engineer who has the necessary tools and testing equipment available. It is also possible for you, the user, to carry out the maintenance yourself. In the context of your own safety and the product liability it is necessary that appropriate training should be undertaken first. Your supplier can advise you on this and/or attend to the annual maintenance on a contract basis, if desired. In the latter case you will be assured of proper and safe operation.

6.3 Five yearly maintenance and testing

We advise you to have the unit checked and tested by your supplier or another body certificated by Holmatro after a maximum of five years of use. Consult your supplier for further details.

6.4 Long-term storage

* Ensure that the equipment is completely depressurized.
* Store the equipment in a dry, well-ventilated area. Use additional preservatives on the external steel parts.

7. DECOMMISSIONING/RECYCLING

The various parts can be re-used at the end of their service life. Collect the hydraulic oil and dispose of it separately. The unit consists of steel, aluminium, neoprene (seals) and plastic. The unit does not contain any pressurized components. Consult your supplier about recycling.