



# Manual

## HOVE REFILLER v2

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|---|---|
| a. Case   | h. Remote Control   |
| b. Lid  | i. Support Pins for Cartridge   |
| c. Grease Cartridge Adapter                               | j. Indicator LED for Ground Failure Detection<br>(only on models with Ground Failure Detection) |
| d. Lock Lever (only on models with low viscosity adapter) | k. Flush Valve  |
| e. Hove Grease Cartridge                                  | l. Flush Pipe   |
| f. Hose Connection  | m. Speed Adjustment Knob  |
| g. Control Switch   | n. Flush Kit  |

# GENERAL DESCRIPTION OF THE MACHINE

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Hove Refiller ver. 2 is a semi-automatic lubrication pump intended for refilling of grease/lubricant in central lubrication systems. The small size and low weight of this machine make it the best choice for refilling central lubrication systems in places with ladders and stairs. Hove Refiller can be operated by means of a switch at top panel of the machine or by a remote control.

## INTENDED USE

Hove Refiller can be used for refilling central lubrication systems in any industry. Only use the machine for this purpose.

# SAFETY RULES

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- Only persons who have read and understood the operating instructions may operate the machine.
- Never use the machine to other purposes than described above under "Intended use".
- Never use Hove Refiller for direct feeding of grease/lubricants to a closed bearing, as the bearing might be damaged by the building-up of pressure inside.
- Never point the hose from the machine at people or animals.
- Always wear safety glasses and gloves when working with lubrication.
- Always use the built-in handle for carrying the machine. Always use approved lifting equipment for lifting the machine to great heights. Always use required personal safety equipment when using lifting devices in connection with high level lifting.
- Only use the original power cord supplied from Hove A/S. The mains plug of the power cord must have a safety earth connection, and you must connect it to a safety earth connected mains outlet.
- If the machine is equipped with the Hove ground failure detection feature, the high voltage components of the machine will be switched off until a safety earth connection is detected. The PE wire in the power cord must be connected to safety earth. Other safety earth connections are not detected!
  - Indicator for LED for Ground Failure Detection:
    - RED: Safety Earth Connection missing
    - GREEN: Safety Earth Connection detected

# ON DELIVERY OF THE MACHINE

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- Immediately check the packaging and machine for shipping damage. Do not use the machine if damaged. Contact Hove A/S.
- Dispose of packaging material according to applicable regulations.
- Read the instruction manual carefully. It contains important information about the use and maintenance. Keep the instruction manual for future reference.

# WHEN USING THE MACHINE FOR THE FIRST TIME

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## CLEANING THE MACHINE

- Clean the Hove Refiller to prevent any contamination of grease or pump.
- As described under “Assembly”, flush the pump through with 300 grams of the desired type of grease before initial start. The machine's functions have been thoroughly checked at the factory. This may be the cause of small remaining quantities of grease in the machine. The flushing ensures the removal of any remaining grease and it gives the opportunity to test the machine's functions before using it for lubrication applications.

## ASSEMBLY

- Open the lid (B).
  - On models with cartridge turn on coupling:
    - Dismantle the dust cap by turning the lock lever (D) fully counterclockwise
  - On models with cartridge push on coupling:
    - Pull off the dust cap
- Screw the grease cartridge adapter (C) onto a full Hove Grease Cartridge (E) with the desired type of grease. Be sure to screw the adapter sufficiently firm, so the join is airtight.
  - Make sure the grease is fully advanced in the adapter.
- Mount the four support pins (I) for the cartridge.
- Install the grease cartridge with adapter on the machine.
  - On models with cartridge turn on coupling:
    - Lock the adapter by turning the lock lever (D) fully clockwise.
  - On models with cartridge push on coupling:
    - Push on the cartridge.
- Position Flush valve (K) to “FLUSH” / “AIR RELIEF”
- Plug the power cord in the machine’s power socket and plug it into the mains outlet supply.
- Start the pump by turning the control switch (G) into the “PUMP” position and pump out 300 grams of grease to flush the pump.
- Stop the pump after flushing by turning the control switch into the “OFF” position.
- Connect the hose onto the outlet connector (F) on the Hove Refiller. Connect the other end of the hose to the inlet of the central lubrication installation.
- Position the Flush Valve to “PUMP”.
- Hove Refiller is now ready for use.

# DAILY USE

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- Observe the safety and operating instructions on the machine and the used lubricants.
- Always flush the pump with the new type of grease in the event of a changing the grease type.
- If you use the same hose for all types of grease, make sure to flush the hose before use.

## AFTER USE

- Unplug the power cord from the mains outlet supply and disconnect it from the machine.
- Clean the Hove Refiller to prevent any contamination of grease or pump.
- Disassemble and dispose of empty Hove grease cartridges in an environmentally safe manner according to current regulations of the country where the machine is used.
- Disassemble the four support pins for the grease cartridge.
- Close the Hove Refiller. Make sure that the lid is closed correctly.

# OPERATING THE MACHINE

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The Hove Refiller can be operated by the control switch (G) at the machine. or by means of a remote control (H).

Setting is done by turning the switch to one on the positions: "OFF", "PUMP", or "REMOTE".

NOTE: By selecting "PUMP" the pump starts immediately.

If you select "REMOTE" the pump will run when pressing the button at the remote control. When you release the button, the pump stops.

The remote control comprises a red LED indicating that the Hove cartridge should be replaced (important if e.g., more than 5 kg at an installation is needed). The LED turns off during pumping and it is only turned on when a cartridge is empty and needs to be replaced.

The LED indicator is activated if there is a pressure drop in the pump. The LED will also turn on when connecting the Hove Refiller to the power supply, as there is no pressure built up at this time.

# CLEANING AND MAINTENANCE

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Regular inspection and maintenance of the machine helps to ensure smooth operation.

- Always clean the Hove Refiller after use.
- Regularly check the O-ring at the bottom of the adapter thread for wear and tear.
- Regularly check the O-ring at the cartridge locking mechanism for wear and tear.
- Regularly check pressure hose for damages. If the outer surface is severely damaged, we
- recommend replacing the hose.

# IN THE EVENT OF DAMAGE TO THE MACHINE

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## **WARNING**

Unless agreed otherwise, only HOVE A/S may carry out repairs and alterations to the machine. Worn or defective parts must be replaced by original spare parts. Incorrect repairs or use of non-original spare parts can lead to serious damage to the machine and danger to the user. If the machine is visibly damaged (cracks, holes, etc.) the machine should no longer be used, but must be repaired or discarded.

## **WHAT TO DO IF AN ERROR OCCURS?**

You can often remedy errors to the machine without submission for repair. The following table shows the possible causes of errors and tips to remedy them.

## TROUBLESHOOTING GUIDE

Fault	Possible Causes	Remediation
Indicator LED for Ground Failure (J) doesn't change color into green after connecting the machine to the mains power supply	a) Ground Failure Detection (only for models with Ground Failure Detection) does not detect a proper ground connection.	a) Unplug the mains power supply and reconnect it to a different power outlet with a working ground connection.
Grease /liquid runs irregularly/spouting out of the pump when pumping (there is air in the system)	a) Air leak at cartridge/adaptor connections b) O-rings	a) Screw cartridge properly onto adapter b) Replace O-ring
Pump is working but is not pumping grease	a) Air is stuck inside the pump	a) Follow the steps below: <ul style="list-style-type: none"> <li>• Stop the pump</li> <li>• Remove the grease cartridge</li> <li>• Turn the Flush Valve(K) to FLUSH / AIR RELIEF position</li> <li>• Make a deep funnel in the grease inlet with e.g. a cable tie</li> <li>• Prime the inlet with oil to let air escape from the pump</li> <li>• Set the speed adjustment knob(M) to 10% and start/stop the pump quick and repeatedly while priming it with oil</li> <li>• Stop pump, fill inlet up with oil</li> <li>• Check that the grease is fully advanced in the cartridge adaptor and put on the cartridge</li> <li>• Set the speed adjustment knob to 100% and flush until pure grease comes out of the flush pipe(L)</li> <li>• Stop the pump and turn the flush valve to PUMP position</li> </ul>

# DISPOSAL

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This machine is in accordance with Directives 2011/65/EU - Restriction of the use of certain hazardous substances (RoHS), and 2003/108/CE on the disposal of waste from such equipment (WEEE).

When the machine is to be disposed, it must be collected separately from other waste according to applicable regulations.

## TECHNICAL DATA

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### General

- Filling unit

### Dimension

- Size: 470 x 365 x 190 mm
- Weight: 11 kg

### Power supply

- 115-120 VAC / 50Hz-60Hz
- or
- 230-240 VAC / 50-60HZ

### Maximum Continuous Output Pressure

- 100 bar
- 1450 psi

### Output Flow

- Up to 1800 g/min, depending on lubricant
- Up to 63.49 oz/min, depending on lubricant

### Operation

- Semi-automatic

### LpA Sound Pressure Level

- 58 dB(A)

### Power Consumption

- Max. 1300 W

### Cartridges

- 1.5, 3, and 5 kg

# EU DECLARATION OF CONFORMITY

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**Hove Refiller ver. 2 is in conformity with:**

Directive 2014/30/EU - Electromagnetic Compatibility (EMC)

Directive 2014/35/EU - Low voltage (LVD)

Directive 2006/42/EC - Machinery (MD)

Directive 2011/65/EU - Restriction of the use of certain hazardous substances (RoHS)

Directive 2014/68/EU - Pressure equipment (PED)

**and the following harmonized standards and technical specifications have been applied:**

EMC:

EN 55011:2016 - Industrial, scientific, and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

EN 61800-3:2004/A1 2012 - Adjustable speed electrical power drive systems. EMC requirements and specific test methods

Electrical Safety:

EN 61800-5-1:2007 - Adjustable speed electrical power drive systems. Safety requirements - Electrical, thermal and energy

EN 60204-1:2018 - Safety of machinery - Electrical equipment of machines - General requirements

EN 60990:2016 - Methods of measurement of touch current and protective conductor current

# IN-SERVICE INSPECTION & TESTING OF ELECTRICAL EQUIPMENT

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## ACCEPTANCE LIMITS:

### Earth Continuity Test

- Protective conductor resistance RPE must be  $\leq 0,3 \Omega$  at 5 m power cord

### Insulation Resistance Test

- Insulation resistance RISO must be  $\geq 2 \text{ M}\Omega$  at  $\leq 500 \text{ VDC}$  test voltage

### Protective Conductor Current Test

- Protective conductor current must be measured when the pump is switched on and running (direct measurement)
- The measurement must be performed with the mains plug polarized in both directions
- Protective conductor current IPE must be  $\leq 3,5 \text{ mA RMS}$

### Touch Current Test

- Touch current must be measured when the pump is switched on and running (direct measurement)
- The measurement must be performed with the mains plug polarized in both directions
- Touch current ITOUCH must be  $\leq 0,5 \text{ mA RMS}$

## Technology with Ingenuity

Hove A/S is a Danish-owned company that was founded in 2000 and has grown significantly since. Hove A/S has its own production and development departments. We sell and develop:

- Specially designed pumps
- Dosing units
- Fittings
- Flow distribution systems

# SUPPORT, SERVICE, AND REPAIR

HEAD QUARTER

Hove Service Center

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2600 Glostrup

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Website: [www.hove-as.dk](http://www.hove-as.dk)

Other service centers are listed at [ww.hove-as.dk](http://ww.hove-as.dk)

Dealer

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