

**HOVE**



# **Operator and Owner's Manual Carry V2**

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## GENERAL DESCRIPTION

Hove Easy Grease Carry is a battery powered automatic lubrication pump for direct lubrication of bearings. The battery makes the pump independent of mains power and thus ideal for lubrication tasks at hard-to-reach places. The battery is designed to last approx. 15kg of grease before charging

The built-in transport wheels of the lubrication pump make the job easier at long distance between lubrication points. The included carrying strap allows you to strap the Carry on your back and have both hands free.

The Carry functions in two different ways; semi-automatic and full-automatic.

### **FULL-AUTOMATIC MODE (WITH SCANNER)**

The full-automatic mode is the preferred mode for the Carry. In full-automatic mode the Carry is controlled by the Smart Lube app and scanner. In this mode, all functions are pre-programmed and works like **"Scan and Pump"**. Use the scanner for all functions; connecting to the Carry, selecting the Grease Cartridge and scan the QR-codes located near the lubrication points. The QR-codes will be provided, and on request glued on the equipment, by Hove

### **SEMI-AUTOMATIC MODE (WITHOUT SCANNER)**

Alternatively, when no Smart Lube option is selected, you can operate the Carry in semi-automatic mode without Smart Lube. In semi-automatic mode the Carry is controlled via the display included in the pump. The display can be re-located outside the cover for convenience and connected with the extension cord.

### **INTENDED USE**

You can use the Carry for lubrication of bearings in any type of equipment. The Carry can also be used to fill up Central Lubrication Systems.

**Don't use the Carry for any other purpose than described above!**

### **SAFETY**

- Read and understand the instructions as written in this manual
- Do not use the Carry for any other purposes than described in **"Intended use"**
- Never point the hose from the Carry to people or animals
- Follow the local legislations for working on height and for working with electrical and moving equipment

- Follow all site-recommendations
- Always wear safety glasses and gloves when working with lubrication
- Always use the built-in handle for carrying the Carry
- Always use approved lifting equipment when lifting the Carry
- Always use required Personal Protection Equipment (PPE) when using lifting devices
- Only use Hove A/S approved spare parts
- Properly connect the battery to the charger
- Handle the battery with care:
- Do not leave or charge the battery where the temperature may become higher than 50°C (120°F)
- Do not let the battery get wet
- Do not drop the battery, or in other ways apply impacts to the battery
- Do not disassemble or modify the battery
- Do not short circuit the battery terminals or charger connector
- Dispose a battery that requires very frequent charging
- Remove the battery from a device that is not being used for an extended period
- Charge the battery before storing it for an extended period

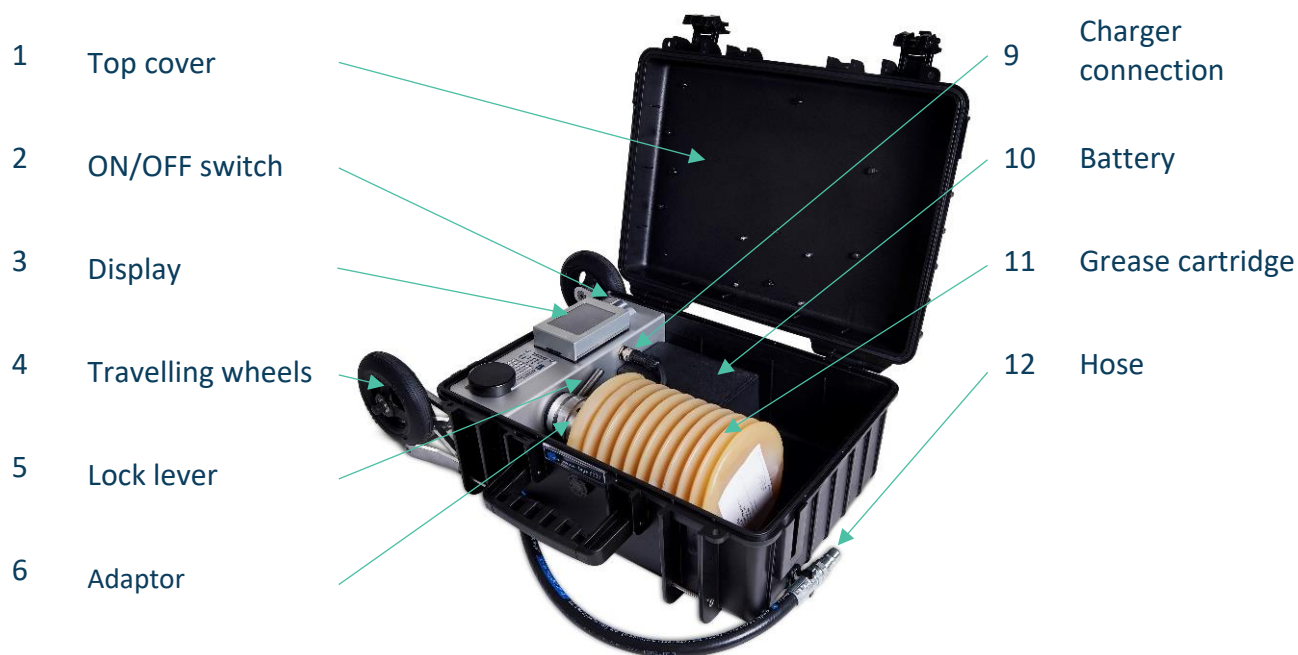
## **ON DELIVERY OF THE EQUIPMENT**

- Check if the packaging is intact
- Do not use if damaged
- Dispose packaging material according to local regulations
- Read the instruction manual carefully. It contains important information about the use and maintenance
- Keep the instruction manual in a safe, accessible location for future reference

## **THE PACKAGE INCLUDES**

- Hove Carry grease pump
- Carrying harness
- Extension cord for display
- Battery and charger
- Lubrication hose
- Grease head

## THE PRODUCT



## PREPARATIONS

### CHARGING THE BATTERY

- Fully charge the battery (10) before use
- Use only the supplied battery charger (14)
- Connect the charger plug to the charger connector (9)
- Connect the power plug of the battery charger to an outlet with 100-240VAC
- The indicator LED of the battery charger lights red during the charging
- When it turns green, the battery is ready for use
- Turn off the mains supply or disconnect the power plug before disconnecting the charger plug from the battery connector

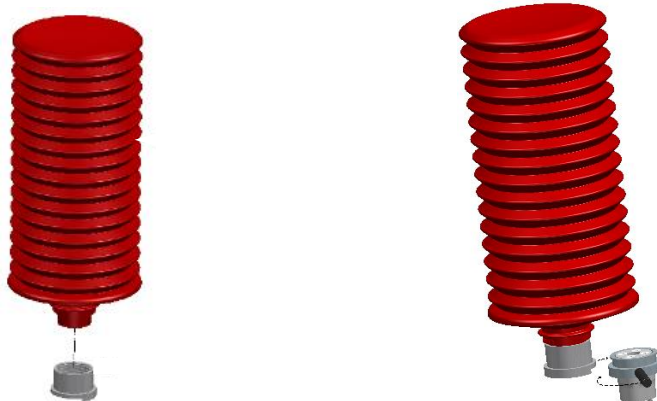
### CLEANING THE MACHINE BEFORE FIRST USE

- Clean the inside of Carry with a cloth-free rag to prevent any contamination of grease or pump
- Flush the pump with the desired type of grease before start (see section **“Flushing the Carry”**)

### PREPARING THE CARRY

- Open the top cover (1)
- Make sure the power switch (2) is in “OFF” position
- Remove the adapter (6) by turning the lock lever (5) fully counter-clockwise
- Screw the adapter onto a full Hove cartridge (11) with the desired type of grease
  - Be sure to screw the adapter sufficiently firm, so the joint is airtight
- Install the grease cartridge with adapter on the machine
- Lock the adapter by turning the lock lever (5) fully clockwise
- Switch ON the machine (2)

The machine is ready when the MAIN screen appears on the display (3)



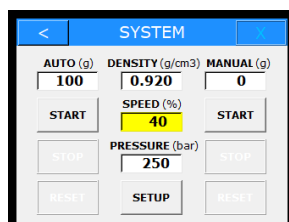
## CONNECTING TO SMART LUBE (FULL-AUTOMATIC MODE)

### Switching on Bluetooth in the Carry

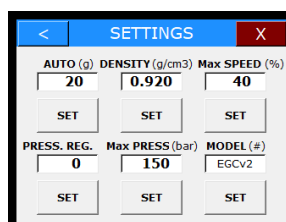
- Switch on the pump
- Select **“Language”**
- Select **“Settings”**
- Select **“Set”** under **“Model (#)”**
- Type in the following code: **45654**
- Select **“Set”** under **“Smart Lube (#)”**
- Type **“1”** under **“Smart Lube (#)”**
- Press **“Enter”**
- The screen returns to start screen
- The MAC address on the pump display appears
- The pump is ready for Bluetooth pairing with the PDA



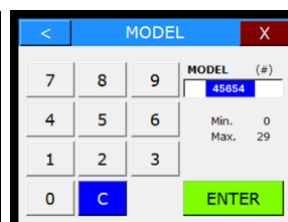
*Start screen*



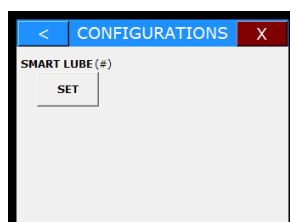
*System screen*



*Set model*



*Type “45654”*



*Set Smart Lube*



*Type “1”*



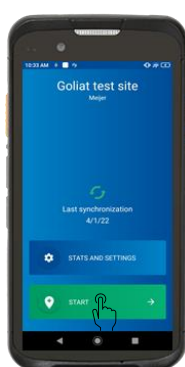
*Start screen appears  
with the MAC number*

The pump remains in **“Bluetooth mode”** until it is manually switched off

See also instructions on how to connect the Carry, Hove Smart Lube and Portal, in the manual of the Smart Lube

## Connecting the Hove Carry with the Hove Smart Lube

- Open the Hove Smart Lube app on your PDA or smartphone
- Press **“Start”**
- Select an **“Asset”**
- Select any **“Lube Point”**
- Optionally **“Add a photo”** (when missing) or select **“Cancel”**
- Swipe **“Confirm”**
- **“Scan”** the QR-code located in your pump
- The Bluetooth logo appear green
- The pump and HSL are now connected
- The system remembers the pump until shutdown



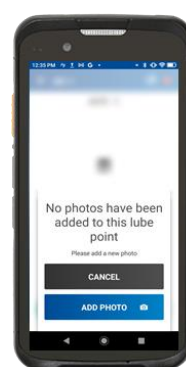
*Start*



*Asset*



*Lube point*



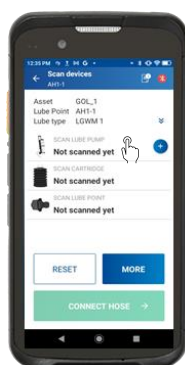
*Cancel or add photo*



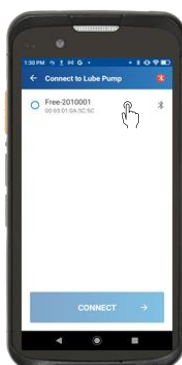
*Confirm*

Alternatively, you can also add the Carry manually:

- Press **“+”** next to **“Not scanned yet”**
- Select correct pump
- Press **“CONNECT”**
- A green circle appears next to the name of the pump
- The Bluetooth logo appear green
- The pump and HSL are now connected
- The system remembers the pump until shutdown



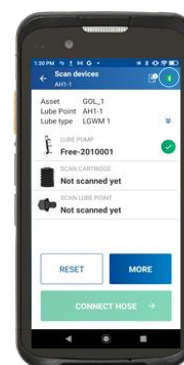
*Not scanned yet*



*Select*



*Connect*

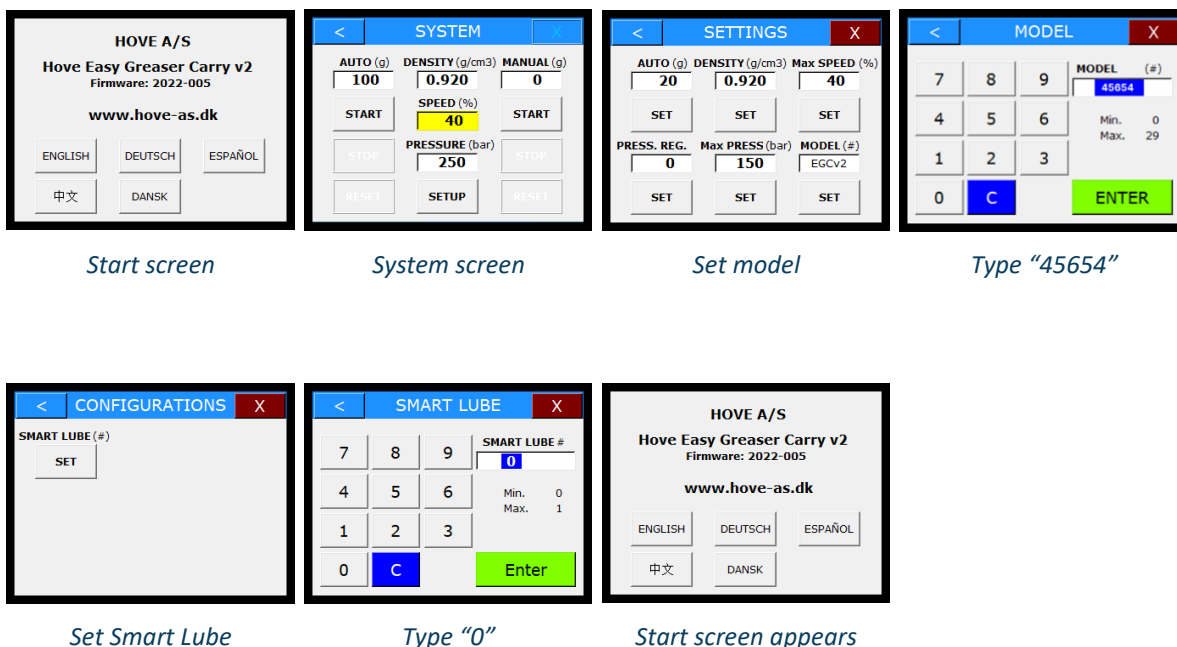


*Ready*

## SELECTING “SEMI-AUTOMATIC MODE” AND “MANUAL MODE”

In semi-automatic mode and manual mode, the pump is not connected to Smart Lube, but instead all functions are controlled by the display.

- Switch on the pump
- Select **“Language”**
- Select **“Settings”**
- Select **“Set”** under **“Model (#)”**
- Type in the following code: **45654**
- Select **“Set”** under **“Smart Lube (#)”**
- Type **“0”** under **“Smart Lube (#)”**
- Press **“Enter”**
- The screen returns to start screen
- The MAC address on the pump display appears
- The pump is ready for Bluetooth pairing with the PDA



The Carry is now in Semi-automatic/manual mode and remains in this mode until manually changed. In this mode, the Carry cannot connect to Bluetooth and the Smart Lube option is not available

# USING THE HOVE CARRY

## OPERATING THE MACHINE

The Hove Carry has been designed to be extremely user-friendly. It is easy to operate, easy to maintain, and easy to use. The Hove Carry operates indoors and outdoors under harsh conditions

Hove advises to use the Hove Carry together with the Hove Smart Lube (Full-Automatic mode) to get the most out of the system.

**Refer to the manual of the Hove Smart Lube for more information**

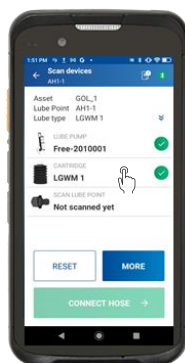
## OPERATING IN FULL-AUTOMATIC MODE (WITH SCANNER)

- Make sure that the machine is ready to operate as described in section **“PREPARATIONS”**
- Switch ON the machine
- The start-up display appears
- Select your language
- The system display appears
- Switch on Bluetooth. Follow the instruction in section **“Connecting to Smart Lube (Full-Automatic Mode)”**
- Open the Hove Smart Lube app on your PDA (scanner or smartphone)
- Connect the Carry with Smart Lube via Bluetooth. Follow the instructions in section **“Connecting the Hove Carry with the Hove Smart Lube”**

The above procedure only must be performed once during your lubrication round. The Carry and Smart Lube are now connected and ready to use

### Scan the Cartridge

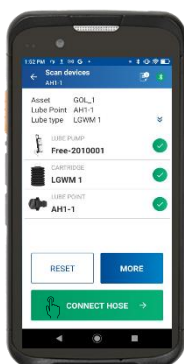
- Point the PDA towards the QR-code on the cartridge
- Press **“SCAN-key”** until a sound is heard
- A green circle appears next to the cartridge name on the display
- The system remembers which cartridge is in the pump
- The system remembers how much grease is left in the cartridge



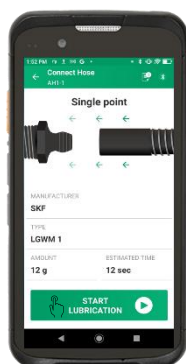
*Cartridge scanned*

### Scan the QR-code near the lubrication point

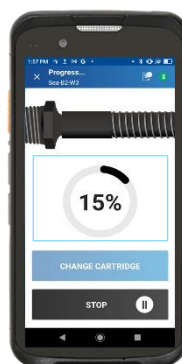
1. Scan the grease lube point
  - Point the PDA towards the QR-code on the lube point
  - Press **“SCAN-key”** until a sound is heard
  - A green circle appears next to the lube point name on the display
2. Press **“Connect Hose”**
3. Press **“Start Lubrication”**
  - The pump starts to pump grease
  - When finished, the screen shows **“Lubrication done”**
4. Press **“Next Lube”**
5. Repeat step 1...4 until all lubrication points are filled up



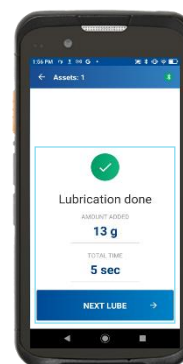
*Connect hose*



*Start lubrication*



*Lubrication in progress*



*Lubrication done*

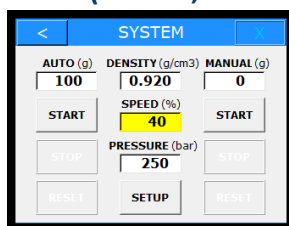
### OPERATING IN SEMI-AUTOMATIC AND MANUAL MODE (WITHOUT SCANNER)

- Switch on the pump
- Make sure the Carry is in **“Semi-automatic mode”**. See **“selecting “Semi-automatic mode” and “manual mode”**
- After selecting your language, the **“System”** screen appears

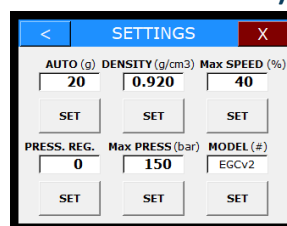
- Check if all values are correct ("**Auto**", "**Density**" "**Speed**" and "**Pressure**")



Start screen



System "Setup"



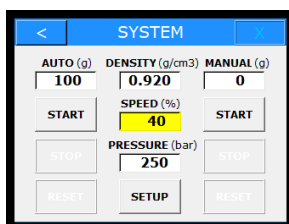
Press "Set" under the item to change

## Operating in "Semi-automatic" mode

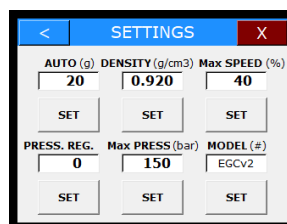
- Select "**Setup**"
  - Select "**Set**" under "**Auto (g)**"
  - Type the required amount of grease
  - Press "**Enter**"
  - The values are saved and remain the same until manually changed
1. Connect the hose to the grease nipple
  2. Press "**Start**"
    - The Carry starts pumping grease
    - The field "**Auto**" turns yellow and counts down until the desired amount of grease has been pumped into the bearing
    - The field turns green and reads "**Ended**" for several seconds, and then returns to the default state
    - At any time, you can press "**Stop**" to stop the pump
  3. Repeat step 1 and 2 until all grease points are lubricated.
    - You can change the value under "**Auto**" (amount of grease to be pumped) at any time during the operation



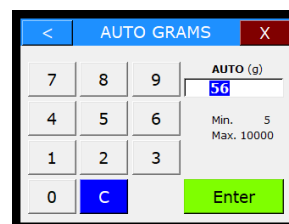
Start screen



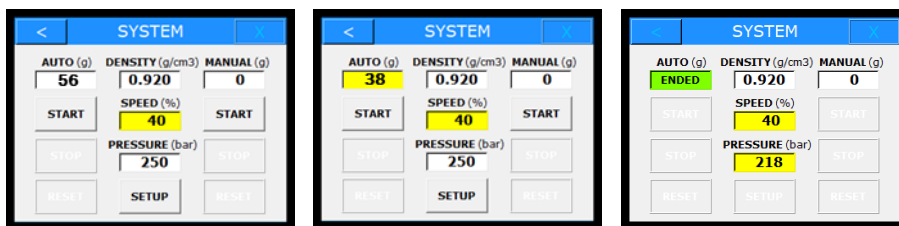
System, press "Setup"



"Set" under "Auto"



Select the amount of grease (g) and "Enter"



Press "Start"

System counts down

When ready: "Ended"

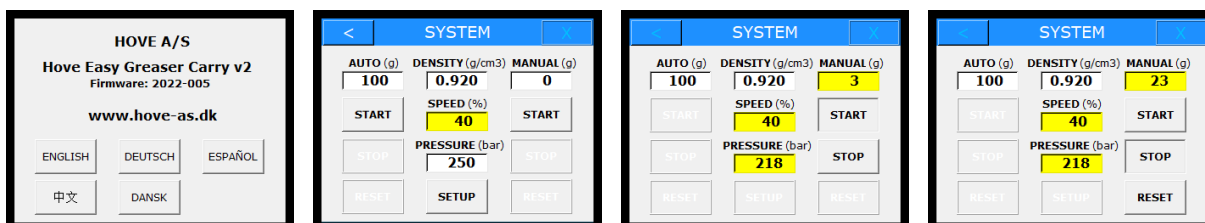
## Operating in "Manual" mode

- Switch on the pump
- After selecting your language, the "System" screen appears
- Select "Start" under "Manual"
  - The Carry starts pumping grease
- Press "Stop" to stop pumping grease

**Note: The Carry continues to pump grease into the bearing until the "Stop" button is pressed!**

- The value under "Manual" keeps counting upwards until "Reset" has been pressed

**Note: It is advisable to decrease the speed in "Manual" mode, to prevent over-lubrication!**



Start screen

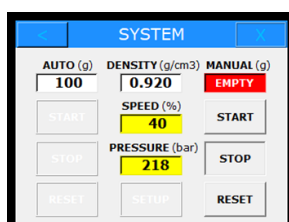
Press "Start" under  
"Manual"

System counts until  
"Stop" is pressed

"Stop", the value remains  
until "Reset" is pressed

## EMPTY CARTRIDGE

If the built-in flowmeter does not register the expected grease flow for a predetermined amount of time, either during manual or automatic dosing, the pump stops, and the grease counter turns red and flashes "EMPTY".



## FLUSHING THE CARRY

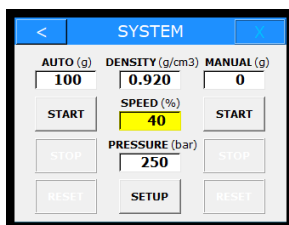
The Carry should be flushed each time you use a different type of grease. This will flush out the remaining grease in the system and the hose. Flushing prevent contamination to build up and mixing two types of grease.

- Switch on the pump
- After selecting your language, the “**System**” screen appears
- Select “**Start**” under “**Manual**”
  - The Carry starts pumping grease
- Observe the change in colour of the grease
- Press “**Stop**” to stop pumping grease when the colour has changed to an even shade

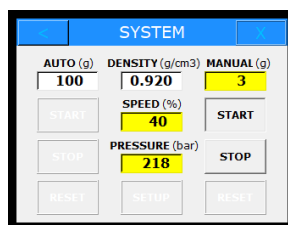
**Note: The Carry continues to pump grease into the bearing until the “Stop” button is pressed!**



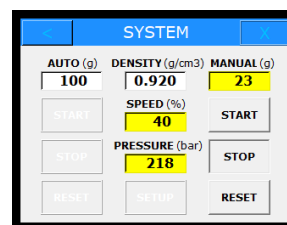
*Start screen*



*Press “Start” under  
“Manual”*



*System counts until  
“Stop” is pressed*



*“Stop”, the value remains  
until “Reset” is pressed*

## AFTER USE

- Switch OFF the machine
- Clean the Hove Easy Grease Carry with a cloth-free rag to prevent any contamination of grease or pump
- Dispose empty Hove grease cartridges in an environmentally safe manner according to current local regulations

## **TECHNICAL DATA**

### **General**

- Gear pump

### **Dimension**

- Size: 570 x 365 x 190mm
- Weight: 10,5kg

### **Power supply**

- Battery: Li-ion 48VDC/96Wh (2x)
- Charger: 50VDC/2A
- Ext. power supply: 100-240VAC/50-60Hz

### **Drive**

- PMDC Electric motor
- 24V DC/93W

### **Maximum Output Pressure**

- Cont.: 200bar/2.900psi
- Peak: 250bar/3.625psi

### **Maximum Output Volume**

- 500ml/min
- 17oz/min

### **Operation**

- Full-automatic
- Semi-automatic

### **Controller**

- Hove Electronic Controller

### **Repeatability**

- +/- 1%

### **LpA Sound Pressure Level**

- 58dB(A)

### **Power Consumption**

- Max. 365W

## EU DECLARATION OF CONFORMITY

Hove Easy Grease Carry ver. 2 is in conformity with:

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

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

EN 62133-2:2017 - Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems

Electrical Safety:

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

## **TROUBLESHOOTING**

In most cases, the problem at hand can be solved by following the below troubleshooting guide. In case the Carry is found to be broken, please contact your nearest Hove dealer or repair centre: [www.hove-as.com/contact](http://www.hove-as.com/contact)

### **CAN'T CONNECT THE CARRY TO THE SMART LUBE**

- Make sure both the PDA and the pump are in **“Bluetooth mode”**
  - See section: **“CONNECT SCANNER TO BLUETOOTH”** and **“CONNECT THE PUMP TO HOVE SMARTL LUBE”**
  - If the issue remains, please contact us: [www.hove-as.com/contact/](http://www.hove-as.com/contact/)

### **CAN'T START PUMPING WITH THE SMART LUBE**

- Make sure the Carry is connected to Smart Lube via Bluetooth
- Make sure the Grease Cartridge is not empty
- Make sure the type of grease is the correct one. If not, change the cartridge and flush the pump before use
  - If the issue remains, please contact us: [www.hove-as.com/contact/](http://www.hove-as.com/contact/)

### **CAN'T FIND MY CARRY IN THE PORTAL**

- Make sure the pump data is inserted to the Portal
  - If the issue remains, please contact us: [www.hove-as.com/contact/](http://www.hove-as.com/contact/)

### **SYSTEM IS “FROZEN”**

- Switch OFF the carry for at least 30seconds and switch ON again
- Close the Smart Lube app and re-open
  - If the issue remains, please contact us: [www.hove-as.com/contact/](http://www.hove-as.com/contact/)

## CONTACT US

### 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 QUARTERS

Hove Service Center

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DK-2600 Glostrup

Denmark

Phone: +45 70 22 10 22

Email: [repairs@hove-as.dk](mailto:repairs@hove-as.dk)

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

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

Dealer

#### Hove A/S

Hove Service Center

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Fax.: +45 70 22 10 82

E-mail: [hove@hove-as.dk](mailto:hove@hove-as.dk)

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