



# Enhance 270 Mobile Patient Lift

Instructions for use

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### **1. INTRODUCTION**

The Drive DeVilbiss Healthcare Enhance 270 Mobile Patient Lift is an electrically operated patient lift, designed to support and promote safe patient handling and transfer for both the patient and caregiver. The hoist has a maximum user mass of 272kg and features a power operating base to provide effort-free operation of the hoist legs.

Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the MHRA or competent authority of your Member State. Please quote the product serial code on all correspondence.

The Enhance 270 incorporates a 6-point cradle with safety sling spring clips as standard and is designed to be used in conjunction with the Drive DeVilbiss branded range of slings.

Each lift is fully assembled and load tested before being packed and shipped.

The packing is specifically designed for both export and domestic shipment to ensure the safe arrival of the lift. A user manual is supplied with each lift and should be kept safely for future reference.

To properly maintain your lift please refer to the maintenance schedule included in this document. If you are at all unsure what your country's servicing requirements are, please check with your dealer and/or a local government agency.

### **2. PRODUCT STATEMENTS**

#### **Intended Purpose**

To assist in the lifting and transfer of a user from one resting surface to another.

#### **Intended users**

Any mobility restricted user who is below the maximum user weight limit. Only professional and/or fully trained users are to operate the hoist and fit the sling.

#### Indications

To assist in the lifting and/or transferring of a mobility-impaired patient due to an injury, physical disability or medical condition.

#### **Intended Patient population**

The Intended Patient Population is mobility-impaired patients (up to maximum patient mass) requiring assistance to be lifted and/or transferred over a short distance.

#### **Contra-indications**

- · Patient exceeds maximum patient weight limit.
- Patient sling is not compatible with Enhance 270 Mobile Patient Lift.
- For use for transporting patients.

Other contraindications may be relevant which are specific to the individual and/or environment of use

Drive DeVilbiss Healthcare recommends that the transfer of a patient is fully risk assessed and conducted safely over a short distance only. Drive DeVilbiss Healthcare patient lifts may be safely operated by a single appropriately trained and experienced caregiver, in accordance with ISO 10535:2021. However, there are circumstances that may require two people to safely operate the lift. It is the responsibility of each facility or caregiver to determine if more than one person is required to safely operate the lift at the time of transfer, depending on these circumstances. It is also the responsibility of each facility of each facility or caregiver to ensure that the lift is only operated without additional assistance, if circumstances safely allow, by someone who: (1) has thoroughly studied the instructions for use for both the lift and any accessories; (2) has adequate training and experience to determine that the lift may be safely operated without additional assistance; and (3) can operate the lift without assistance. The Enhance 270 Mobile Patient Lift is suitable for patients in the SITTING, SITTING/RECUMBENT and RECUMBENT positions.

# **3. ASSEMBLY INSTRUCTIONS**

#### **Carton Contents**

Place the carton in a clear working area and open carefully. The carton contains:

• Drive DeVilbiss Healthcare Enhance 270 mobile patient lift (Mast, Boom, Base, "U" shaped push handle)

- Wallet containing documents
- Hand control
- Battery pack
- Charging cord
- Desk top charger/stand



The Enhance 270 Mobile Patient Lift is heavy and will need to be lifted with care. You may need assistance to lift the product from the carton.

1. Remove all the parts from the carton and place on the floor, taking care to protect the finish from damage.

Place the base in a clear space and apply the rear brakes. Connect the two power base connectors before sliding mast into base. Be careful not to damage the wire connectors.



2. Fit the mast and boom assembly into the base socket.



3. Secure the mast and boom assembly to the base with the four attachment bolts.



Avoid trapping fingers. Keep fingers away from the end of the mast when inserting into the base socket. The electric leg operation will not function unless the mast is fully engaged.

4. Line the handle assembly up to the rear of the mast and attach using the four screws provided. The screws needed to attach the handle are kept in the user instruction wallet for safe keeping.



5. Remove the two small screws from the mounting plate. Slide the control box on to the mounting plate and secure by reattaching the two screws.

6. Fit power pack to the lift and make sure the latch holding the pack in place is fully engaged. "Click" in place.

7. Plug the handset and actuator cables into the bottom of the controller. Refer to the figures on page 14 for correct positions.



## 4. DISASSEMBLY

The lift should not be disassembled unless for service, repair or transport if necessary. If disassembly is required, simply follow the assembly instructions in reverse sequence.

ALWAYS CHECK THE FOLLOWING BEFORE OPERATION

• The mast is fully locked into position.



• Confirm the boom rises and lowers (This is done via the hand control and/or control module).





• The legs of the lift open and close satisfactorily (This is done via the hand control and/or control module).



• The red Emergency Stop Button is located on the top of the control box and is activated by pressing in. This will cut all power to the lift and only be reset by twisting the button counterclockwise and releasing.



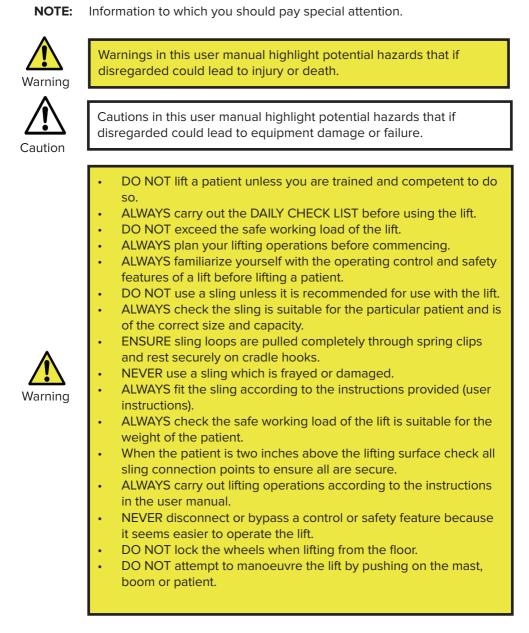
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## **5. PARTS IDENTIFICATION**



# **6. SAFETY PRECAUTIONS**

Please read and follow the safety precautions listed below. The operation and use of Drive DeVilbiss patient lifts are simple and straightforward. Following these few basic safety precautions will make lifting operations easy and trouble free.



- ALWAYS manoeuvre the lift with the handle provided. A foot push pad is also provided.
- DO NOT push a loaded lift at speeds, which exceed a slow walking pace (0.8m/sec).
- DO NOT push the lift over uneven or rough ground. Particularly when loaded.
- DO NOT attempt to push/pull a loaded lift over a floor obstruction.
- NEVER force an operating/safety control. All controls are easy to use and do not require excessive force.
- DO NOT park a loaded lift on ANY sloping surface.
- DO NOT use electric lifts in a shower.
- DO NOT use or store in a wet or corrosive environment: shower, bath or pool locations.
- DO NOT charge batteries in a bathroom, shower room or other wet environments.
- DO NOT place or store batteries under direct sunlight or near a heat source.
- This lift is for patient lifting. DO NOT use it, or allow it to be used, for any other purpose.
- DO NOT bump the lift down steps, loaded or unloaded.
- DO NOT attempt to negotiate a loaded lift on a slope, which exceeds 1:12 (approx. 5°)
- DO NOT attempt to negotiate a slope without a second helper being present.
- DO NOT use a loaded lift on thick pile carpet.
- NEVER operate the lift with loose or missing parts or fasteners.
- INSPECT all precautionary labels on the lift. Order and replace if cannot be easily read.
- DO NOT store where the hoist can be interfered with by children or pets.
- Do NOT use outside of temperature and humidity limits (see specifications page 26).



# 7. OPERATION INSTRUCTION

**Handset** is indicated with pictogram indicating up/down and close/open, it has expandable spiral cord.



#### Leg adjustment

The legs on the Enhance 270 are available with powered adjustable width. The legs can be opened to enable access around armchairs or wheelchairs. For transferring and navigating narrow doorways and passages the lift legs should be in the closed position.

Electric leg adjustment is achieved by pressing the appropriate buttons on the handset. The legs will be locked automatically whenever the hand control switch is released.

#### **Castors and Braking**

The lift has two braked castors which can be applied for parking.

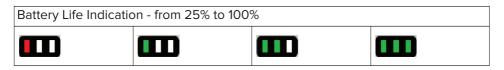


When lifting, DO NOT lock the castors, the castors should be left free and un-braked. The lift will then be able to move to the centre of gravity of the lift. If the brakes are applied, it is possible that the patient will swing to the centre of gravity and this may prove disconcerting and uncomfortable, or the lift may tilt over and cause injury to patient.

#### Raising and lowering the boom

The movement of the boom is achieved by a powerful electric actuator, which is controlled by a simple handset unit. The handset has two buttons with directional arrows UP and DOWN. The actuator stops automatically at the limit of travel in both directions. The hand control plugs into a socket at the base of the control box. There is a hook on the back of the hand control, which allows it to be hung on the mast or boom when not in use.

#### **Battery capacity**



#### **Backup controls**

There are also raising and lowering buttons on the control module. These are located next the emergency stop button and can be used to lower/raise the patient if necessary or should the hand control fail.



#### Smart/Safety Control Module

#### **Intended Use**

The Drive DeVilbiss Smart/Safety control module has an LCD screen, backup controls for operation if the hand control becomes inoperable, battery and an emergency stop button.

#### Below is an example of the TC12 with an LCD display

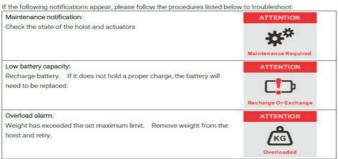


# If you press either button for less than 0.5 seconds, you can access the following screens.



#### Main features:

- a. Raise/Lower Hoist, Legs open/close (with power base only)
- b. Visual battery capacity read out will alarm when battery is at lower capacity.
- c. Control box is equipped with overload protection for the lifting and leg spreading function.
- d. Emergency stop button disconnects power supply. Battery cannot be charged if emergency button is in lower, pressed position.
- e. Charger is integrated in the control box or can be charged externally using the charging stand.



**The Smart/Safety Control Module** stores useful servicing information about the lift that can be recalled when required. This servicing information includes:

- Number of patient lift cycles.
- Total work done by actuator.
- Number of lift overloads (attempted lifts above the safe working load).
- Number of days since last service interval.

The Drive DeVilbiss Smart/Safety control module contains a microprocessor inside making it possible to read out service data via the on-board LCD screen. This information and setting can only be performed by using the Smart/Safety learning hand control (DRIVE Item PR51/SM/HNDSET)



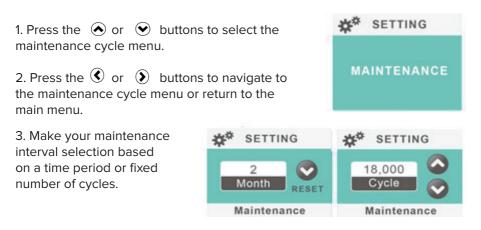
#### Features

- Data collection in the control box with data display via LCD screen
- Work counter
- Intelligent cycle counter
- Service indicator
- Service interval indicator
- Overload information
- 3 step battery indicators

#### Benefits

- Improved safety for both patient and care giver
- Accurate service data available at the touch of a button
- Optimized product life time
- Ease of maintenance for engineers and service technicians

# 8. MAINTENANCE CYCLE SETTING



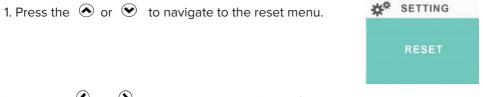
4. Press the  $\odot$  or  $\bigcirc$  buttons to adjust the time period or cycles.

5. The time interval is adjustable in monthly increments and cycles are adjustable in increments of 1000.

6. If you don't want to set up the maintenance cycle, press the button until the following symbol appears.



### 9. SYSTEM RESET



2. Press the  $\textcircled{\bullet}$  or  $\textcircled{\bullet}$  buttons to select **After Maintenance** or return to the main menu.

# 3. After Maintenance system reset

Note: The maintenance interval settings are regulated by the number of cycles or months. An example is shown right.

# 4. Resetting the maintenance interval to 0

Before the reset – the display will appear similar to the images shown below.

5. To reset the maintenance interval, press and hold the  $\bigcirc$  button for 5 seconds. When this process is completed, the values will be reset to zero.

6. After the reset is complete, the screen will appear similar to the images shown below. Note how the default maintenance time or cycle will start from zero (0).



The batteries are protected from deep discharge by a lower voltage alarm. This will sound when the batteries need recharging and the hand control is being operated. It will not sound independently of the hand control being operated.



DO NOT IGNORE THIS WARNING ALARM. Complete the lifting operation and charge the battery pack immediately.

To avoid possible permanent damage to the battery, the battery should be placed on charge as soon as the display indicates the half empty battery symbol.

#### **Charging Instructions**

There are two ways to charge the battery:

1. Battery can be charged directly through the control box, connect cable to the DC jack on the control box. Please release emergency button before charging. Charging will not be possible when emergency button is depressed.

2. Battery can also be charged on charge stand, remove battery pack from the lift. The pack is retained by a simple latch at the top of the battery pack. Lift the latch and the battery pack will be released.

Fit the battery pack to the charging stand, connect charger to charge stand DC jack.

Charging is automatic and will fully charge the batteries over a period of approximately 8 hours.

Note: The battery will not be overcharged if left connected to the power supply.

a) Green Light - Indicates main power is on.

b) Orange Light – Indicates battery is being charged.

c) Battery will be fully charged when green light is illuminated after a period of charging.

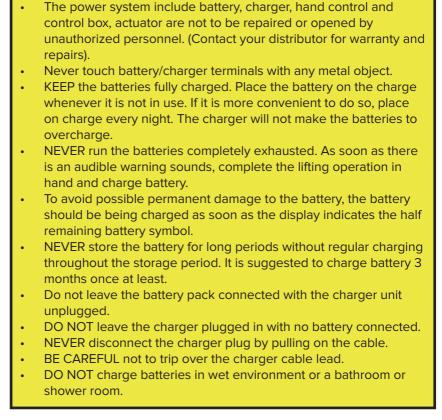
Notes: It is recommended that the battery be charged immediately upon receipt.

To return the lift to service, when battery is being charged on control box, simply unplug the charger.

Unplug the charger and remove the battery pack from the charging stand. Fit the battery pack to the lift and make sure the latch holding the battery pack in place is fully engaged. "Click" in place.

If the battery has not been ued for more than 3 months, please charge as indicated on the previuos page.

Please follow the charging instructions closely. Please pay particular attention to the following points to prolong the life of your batteries.







## **11. KEY SYMBOLS**

	Type B equipment, as per EN 60601-1	UK CA	UK Conformity Assessed
	Class 2 equipment	UDI	Unique Device Identifier
X.	The disposal of the charging and control unit should not be mixed with general household waste.		Maximum User Mass
X.	The disposal of batteries should not be mixed with general household waste.		Consult IFU
X	The disposal of electronics should not be mixed with general household waste.		Importer
	For indoor use	MD	Medical Device
$\wedge$	WARNING, consult accompanying documents.	IPX4	Ingress Protection Rating
REF	Product Code	X	Minimum and Maximum Temperature limit
SN	Serial Number	×	Minimum and Maximum Humidity limit
	Manufacturer	QTY	Quantity
$\sim$	Date of Manufacture	UKRP	UK Responsible Person

- DO NOT clean electrical connections with water or a damp cloth.
   DO NOT pressure wash any components of the hoist.
   PPE must be worn during manual decontamination to prevent the risk of infection.
   Deviating from the specified cleaning instructions could
  - Deviating from the specified cleaning instructions could cause a biological hazard, especially in multi-user environments, and adversely affect the life and efficiency of the product.



Regular cleaning can help prolong the lifespan of the patient lift.

Ensure the power cable is unplugged and the battery pack is removed before cleaning.

# Basic cleaning (Routinely or as required; to be carried out by competent personnel):

• Wipe down with a clean cloth moistened with a mild detergent and dilute with warm water.

• Wipe surfaces with cold, clean water and a clean cloth, and allow to fully dry before use.

• Do not use too aggressive detergents and do not clean under running water.

### **13. MAINTENANCE & SERVICING**

All Drive DeVilbiss products are designed for minimum maintenance, however some safety checks and procedures are required. The **maintenance schedule** is detailed below. Daily checks and a major service, inspection and test will ensure a lift is kept in optimum safe working condition. A list of spare parts are available upon request.

Drive DeVilbiss Healthcare recommends regular inspection and maintenance. Please refer to the chart below.

Item	Pre- delivery	Daily	Regularly	Major Service (every 12 months)
PRE-DELIVERY  • Confirm all components are included.  • Inspect parts for possible damage in transit.	x x			
COMPLETE LIFT • General inspection of Lift. Visually inspect the patient lift for external damage or wear. Scratches and chips.	x	х	×	х
<ul> <li>BASE AND CASTORS</li> <li>Inspect for missing hardware.</li> <li>Base opens/closes with ease.</li> <li>Inspect castors and axle bolts for tightness. Make sure tightly attached to legs.</li> <li>Inspect castors for smooth swivel and roll.</li> <li>Check castor brakes operate efficiently.</li> <li>Overhaul castors and repack with grease.</li> <li>Check tightness of bolt in leg bushes.</li> <li>Check linkages are secure in leg adjuster ball joints.</li> </ul>	x x x x x		x x x x x x	X X X X X X X X
MAST • Mast MUST be securely assembled to boom. • Inspect for bends or deflections. • Check Sling hooks for wear or deflection.	x x x	x	× × ×	X X X

Item	Pre- delivery	Daily	Regularly	Major Service (Every 12 months)
ELECTRIC ACTUATOR ASSEMBLY • Check hand control and cycle to ensure smooth quiet operation. Lift adjustment on all Lifters. Width also for electric leg adjustment.	×	х	х	х
Emergency lowering function (electric and mechanical)	x		х	х
<ul> <li>Check for wear or deterioration.</li> <li>Inspect hardware on mast and boom.</li> <li>Remove dust and dirt from actuator with cloth.</li> </ul>	×××	x	X X X	X X X
BOOM • Check all hardware and swivel bar supports. • Inspect for bends or deflections • Inspect bolted joints of boom for wear • Inspect to ensure that the boom is centered between the base legs.	X X X X		× × × ×	x x x x
SLINGS AND HARDWARE • CHECK ALL SLING ATTACHMENTS each time it is used to ensure proper connection and patient safety. • Inspect sling material for wear. • Inspect straps for wear.	x x x		x x x x	x x x x
CLEANING • Whenever necessary. Clean the lift per CLEANING INSTRUCTIONS in the CARE AND MAINTENANCE section of this manual	x x x	×	X X X	X X X
ON COMPLETION OF CHECK or SERVICE • Arrange repair/replacement of any faulty parts.	х	х	х	х

#### Expected Service Life

The Enhance 270 Mobile Patient Lift is designed and tested for a minimum service life of fifteen (15) years, subject to the use and maintenance procedures stated in this manual. Use, other than in accordance with these instructions, may compromise service life.

## 14. ELECTROMAGNETIC COMPATIBILITY (EMC)

Electromagnetic interference (EMI) tests have shown to produce adverse effects on the performance and control of electrically powered devices. EMI can be produced from different sources, such as cellular phones, amateur radio transmitters (HAM), microwave signals and emergency vehicle transceivers. The EMI produced from hand-held radios are of special concern.

The EMI waves can cause unintentional movement of the lift, or damage to the controller. Every electrically powered device has a resistance to EMI. The higher the resistance level the greater the protection. The intensity of the interference can be measured in volts per meter, V/m.

If the mobile patient lift or any alternative equipment is found to be operating abnormally, turn off the piece of equipment that is believed to be causing the interference (if possible, as soon as it is safe) to identify the source of the RF energy. Once identified, mitigation measures are to be taken, such as the separation distances being increased and / or the device(s) being re-orientated. If the mobile patient lift continues to operate abnormally, turn off at the mains supply and contact Drive DeVilbiss Healthcare Ltd.

The warnings listed below are recommended to prevent possible interference with the control system of your mobile patient lift. Your lift, with no modifications, has an immunity level of 20 V/m. For specific emissions and immunity information relating to this mobile patient lift, contact Drive DeVilbiss Healthcare Ltd. Report EMI incidents to Drive DeVilbiss Healthcare Ltd. using the details provided in section 2.

 Do not operate hand-held transceivers or turn on personal communication devices while the lift is powered on. Avoid use adjacent to or stacked with other equipment where possible. If adjacent use is necessary, the mobile patient lift should be observed to verify normal electrical operation in the configuration in which it is to be used.



- Use of accessories and cables other than those specified or provided by Drive DeVilbiss Healthcare Ltd. could result in increased electromagnetic emissions or decreased electromagnetic immunity of the mobile patient lift and result in improper operation or performance.
- Portable RF communications should be used no closer than 30 cm to any part of the mobile patient lift (including its cables), otherwise a degradation in performance could result.
- Avoid use around radio transmission systems, such as radio or television stations.

## **15. SPECIFICATION**

Product name: Product codes:	Enhance 270 Mobile Patient Lift PR51FLP600
Safety Working Load	272kg
Maximum Overall Length	1435mm
Maximum Overall Height	1940mm
Minimum Overall Height	1480mm
Maximum height at hook	1700mm
Minimum height at hook	500mm
Turn diameter	1420mm
External width when open	1140mm
Internal width when open	1000mm
External width when closed	770mm
Internal width when closed	625mm
Height of legs	120mm
Ground clearance	45mm
Front caster	76mm
Rear brake caster	125mm
Net weight	60kg
Gross weight	71kg
Battery Pack weight	2.2kg (2.9Ah)
Control box weight	0.9kg
6 hook cradle weight	3.75kg
Minimum Temperature	5°C
Maximum Temperature	40°C
Minimum Humidity	20%
Maximum Humidity	90%

# **16. SLING COMPATIBILITY**

Please visit www.drivedevilbiss.co.uk/our-products/moving-handling/hoists/ Enhance270 for the latest sling compatibility matrix.

### 17. WARRANTY

Drive DeVilbiss Healthcare Ltd. guarantees this product is free from defects in material and workmanship under normal use, for 1 year from date of purchase from Drive DeVilbiss Healthcare Ltd. and its subsidiary companies or its authorised dealers. All implied warranties, including but not limited to those implied warranties of fitness and merchantability, are limited in the total duration of 1 year from date of purchase.

Drive DeVilbiss Healthcare Ltd. makes no other warranties, express or implied, and all implied warranties of merchantability, non-infringement and fitness for a particular purpose are hereby disclaimed. In no event will Drive DeVilbiss Healthcare Ltd. be liable for punitive, special, or consequential damages, or for an amount in excess of the purchase price of the defective Drive DeVilbiss Healthcare Ltd. product or products.

Proof of purchase must be presented with any claim. Except as provided herein, this warranty will not apply to any Drive DeVilbiss Healthcare Ltd. products that have been;

(a) damaged by lightning, water, or power surges, (b) neglected, altered, abused, or used for a purpose other than the purpose for which they were designed, (c) repaired by you or any other party without Drive DeVilbiss Healthcare Ltd. prior written authorisation, (d) used in conjunction with a third-party product or products not approved in advance by Drive DeVilbiss Healthcare Ltd. (e) damaged or failed by or attributes to acts of God, (f) damaged, caused by failure to follow instructions, or (g) otherwise used in a manner inconsistent with any instructions provided by Drive DeVilbiss Healthcare Ltd. The warranty explicitly exempts consumable items.

This warranty contains the entire agreement between you and Drive DeVilbiss Healthcare Ltd. with respect to any warranty matters, and supersedes any and all other written or oral statements, representations or agreements relating to the subject matter of this warranty.

In the event of a product defect during the warranty period you should contact your supplier, whether it be Drive DeVilbiss Healthcare Ltd., its subsidiary companies, authorised dealers or international distributors, who will at their option unless otherwise provided by law; a) correct the defect by product repair within the terms of the warranty, b) replace the product with one of the same or similar design or c) refund the purchase price. All replaced parts and products on which a refund is made become the property of Drive DeVilbiss Healthcare Ltd. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This limited 1 year warranty gives you specific legal rights and you may also have other rights.

Drive DeVilbiss Healthcare Ltd. cannot be held responsible for any injury or incident which relates to the use of this product in conjunction with accessories manufactured by companies other than Drive DeVilbiss Healthcare Ltd.

Drive DeVilbiss Healthcare Ltd. has a policy of continual product improvement and reserves the right to amend specifications covered in this document.

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