

ALL PUMPS SUPPLIED BY HARVEST
HEALTHCARE COMPLY TO THE FOLLOWING
STANDARDS LISTED BELOW

BS 5724 PART 1

IEC 601-1

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COMPANY ACCREDITED TO
ISO 9002 STANDARDS



OPERATION MANUAL
HARVEST OPAL



DYNAMIC PRESSURE
RELIEF MATTRESS SYSTEM

FEBRUARY 2007

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SAFETY

Part 1

Important

Please read carefully and familiarise yourself with the Information in this manual prior to using your equipment.

Keep this manual in a handy place for any future reference.

For your safety and to ensure the most efficient performance from your system the following precautions should be observed.

Do not expose the pump unit to liquids of any kind.

Always protect your system from open flames.

Do not use phenol based solutions when cleaning.



When in storage the system must be kept in a clean and dry environment.

Do not store in direct sunlight.

SAFETY

Part 2

Note: All Harvest Healthcare pumps are fitted with a functional earth and are labelled accordingly both internally and externally.

	Double insulation	}	
		}	
		}	
	Type BF equipment	}	As labelled accordingly
		}	
		}	
CE	C E Marked Product	}	

There is a possibility of Electro Magnetic Interference. If this occurs increase the distance between the devices.

OPAL WEIGHT CONVERSIONS

Weight in kg	Weight in lb	Weight in stones & lb	Pressure
range			
50 kg	111 lb	7 stone 12lb	MIN
51-75 kg	112-165 lb	8 stone to 11 stone11lb	1/3
76-100 kg	166-220 lb	12 stone to 15 stone10lb	2/3
Over 100 kg	220lb	15 stone 10 lb and over	MAX

COMFORT CONTROL

Setting Procedure

It is important to follow the correct setting procedure to ensure the patient receives adequate support while achieving maximum pressure relief and comfort. Failure to follow this procedure could result in the patient being put at risk.

1. Lay the patient on the mattress surface.
2. Reset the pressure dial on the pump according to the patient weight guide below or on the face of the pump. Ensure that the correct pressure setting has been selected for either lying or sitting position.

For a sitting position the pressure dial must be turned up one place. As an example, for a patient weight of 50kg setting MIN should normally be selected. For the same patient in a sitting up position the pressure dial would need to be reset to setting 1/3.

Note: Ensure that the pressure dial is reset to the correct setting when the patient is returned to a lying down position. Failure to do so could result in the patient being put at risk.

WARNING

ELECTRICAL EQUIPMENT CAN BE HAZARDOUS IF MISUSED. ONLY AUTHORISED TECHNICAL PERSONNEL SHOULD REMOVE THE BACK FOR MAINTENANCE. REMOVING THE BACK CASE BY UNQUALIFIED PERSONNEL WILL INVALIDATE ANY WARRANTY

WARNING

BEFORE CLEANING THE UNIT ENSURE THAT THE ELECTRICAL SUPPLY TO THE PUMP HAS BEEN DISCONNECTED. PLEASE REMOVE THE PLUG FROM THE POWER SUPPLY.

CAUTION

DO NOT USE THIS SYSTEM AS A MEANS FOR LIFTING THE PATIENT. THIS WILL DAMAGE THE SYSTEM AND COULD PUT THE PATIENT AT RISK.

PRODUCT DESCRIPTION

The HARVEST OPAL PLUS is an alternating pressure relieving mattress system used in the prevention and treatment of pressure ulcers. This system is recommended for use by a patient who is at risk from pressure sores. By using the established principles of alternating therapy, the OPAL offers the patient comfortable and relaxing support that can both prevent break tissue down and enhance healing.

The OPAL pump unit is both lightweight and compact; its features include a clearly visible low-pressure warning indicator and a manual pressure / comfort control function. The anatomical is made up of 19 air cells. The alternating section is split up into 2 sections consisting of odd cells e.g. 1,3,5 etc and even cells e.g. 2,4,6 etc. These two sections will alternate through a 10 minute cycle in which time both sets of alternating air cells will have inflated and deflated sequentially. All air cells are individually replaceable should any damage occur to them. The mattress is fitted with a vapour permeable cover.

Quick release couplings between the pump unit and the seat enable easy patient transport arrangements. To deflate the system simply disconnect the couplings from the pump unit.

Fault Occurring	Ensure That	Possible Solution To The Problem (Next Stage)	If Your Product Is Still Not Working
----- The system does not appear to be alternating.	There are no kinks in the tubing down the side of the mattress.	Untwist any kinks found.	Return the system to Harvest Healthcare or your local distributor.
----- The pump is operating noisily.	The pump is not resting against a solid surface.	Re-position the pump either on the floor or attach to a suitable surface.	Return the system to Harvest Healthcare or your Local distributor.

ALL CIRCUIT DIAGRAMS AND PARTS ARE AVAILABLE FROM HARVEST HEALTHCARE UPON REQUEST

Fault Occurring	Ensure That	Possible Solution To The Problem (Next Stage)	If Your Product Is Still Not Working
The pump is on but is not inflating the mattress.	The connectors are connected correctly.	Disconnect the connectors and re-connect them to the connectors on the side of the pump.	Return the system to Harvest Healthcare or your local distributor
The pump is on but is not inflating the mattress.	There are no leaks in the mattress.	Replace the damaged seat section with the correct spare parts. available from Harvest Healthcare.	Return the system to Harvest Healthcare or your local distributor.
	There are no kinks in the tubing down the side of the mattress.	Untwist any kinks found.	
	Check the pressure is in the correct range for the patient weight.	Turn the pressure up or down to within the correct pressure range. A guide is the front of the pump or in the back of this booklet.	

Installation

Unpack the system and place the pump unit at the foot and of the bed.

Place the support surface on top of the existing mattress or in the chair where the patient will be seated with the cells and / or vapour permeable cover uppermost.

Connect the tubes leading from the mattress to the outlet ports on the pump. Inflation tubes should be at the foot end of the bed or at the front of the cushion.

Tuck the end flaps under the existing mattress on the bed.

Refer to the comfort control setting (on the front of the pump and in the back of your user manual) and adjust the dial according to the patient's weight.

Connect the pump to the power supply and switch on the pump. At this stage both the mains power and low pressure indicators will illuminate.

Cover the support surface with a loosely fitting sheet.

When the low pressure indicator has extinguished the patient may be placed on the support surface.

Operating Functions

a) Transport Mode

If required, disconnect the hoses from the pump and link the male and female connectors together. The system will now equalise and retain pressure once the pump has been shut off.

b) CPR Requirement

If rapid deflation is required, simply twist the bottle CPR or disconnect the hoses from the pump.

c) Infection Control

Should the mattress or pump become infected then please refer to Harvest Healthcare's disinfecting procedure in this manual for appropriate cleaning processes

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HARVEST OPAL TROUBLESHOOTING

PROCEDURE

PART 1

Fault Occurring Ensure That Possible Solution To The If Your Product Is

	Problem (Next Stage)	Still Not Working	
----- The pump is showing no indications that it is on.	Mains is plugged in. The switch is in the on position	Connect the appliance to the nearest mains socket and ensure that the green mains switch is on	Return the pump unit to Harvest Healthcare or your local distributor.
	The fuses on side of the pump are not blown	Replace them with the correct fuses (T1amp)	
	The fuse in the plug is not blown	Replace them with the correct fuses (3amp)	
----- The pump appears to be running but is not extinguishing the low pressure light.	The hoses are connected correctly.	Disconnect the hoses and re-connect them into the outlet connectors on the side of the pump.	Return the system to Harvest Healthcare or your local distributor.
	There are no leaks in the mattress.	Replace the damaged mattress section with the correct spare parts.	

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GUARANTEES AND WARRANTIES

PART 4

If upon inspection, Harvest Healthcare accepts liability then the equipment shall be repaired or replaced immediately.

If Harvest Healthcare does not accept liability it shall inform the customer of its reasons and provide the customer with an estimate for either repair or replacement.

Further information and guidance is available from Harvest Healthcare on request and also your local Health and Safety advisor. It is advised that this procedure be adopted on transfer of the system between patients.

PUMPS

General cleaning may be achieved by using a cloth dampened with a mild detergent and water solution. This may be followed up by either wiping with a sodium hypo chlorite solution to a dilution of **1000 PPM** (parts per million) or by using an alcoholic wipe. These products are available from Harvest Healthcare.

NOTE:

Do not use hyper carbonate or phenol based cleaning solutions.

Do not use any abrasive compounds or cleaning pads.

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DISINFECTING PROCEDURE PART 1

The following guidelines are suggested by Harvest Healthcare as being suitable infection control procedures.

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DISINFECTING PROCEDURE PART 2

MATTRESS

During general use the mattress and internal tube sets can be cleaned by using a mild detergent solution. Where appropriate mattress covers can be completely removed for laundering or sterilisation. Wherever there is staining or body fluids on the mattress, including cells and tubing, then a sodium hypo chlorite solution to a dilution of **1000 PPM** should be used following thorough cleaning with soap and water.

All mattress covers may be laundered as follows:

Pre Wash	Cold	10 minutes
Main Wash	>71°c	10 minutes

Followed by cold rinses and extraction.

Do not use phenol based solutions

CAUTION:

During cleaning procedures suitable protective clothing should be worn including suitable eye protection.

Ensure that the mains power supply to the pump has been disconnected prior to cleaning.

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GUARANTEES AND WARRANTIES

PART 3

Supreme Pump £125.00 (Ex VAT) providing 2 years

additional warranty.

Seat Pump

£100.00 (Ex VAT) providing 2 years additional warranty.

Bubble Pump

£100.00 (Ex VAT) providing 2 years additional warranty.

Opal Pump

£100.00 (Ex VAT) providing 2 years additional warranty.

Any warranty issued should be taken out on the date of purchase and provides a warranty from that date. The warranty must be paid for at the date of purchase.

3. **Claims Relating To Guarantee Or Warranty**

In the event of a fault being discovered within the guarantee or warranty period, the customer shall notify either Harvest Healthcare or your local distributor **at the earliest opportunity.**

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GUARANTEES AND WARRANTIES

PART 2

- a. That the usage has been on a fair wear and tear basis and excludes user damage.
- b. That Harvest Healthcare's cleaning / disinfecting guidelines have been followed.
- c. That Harvest Healthcare's maintenance guidelines have been followed.
- d. That **All** maintenance has been carried out by suitable qualified personnel.

4. **Warranty**

Harvest Healthcare offers extended warranties only on the electrical equipment in the range, details are as follows:

Royal Pump £200.00 (Ex VAT) providing 2 years additional warranty.

Suitably qualified personnel should carry out routine maintenance every 12 months from initial date of purchase.

The following checks should be carried out:

1. Inspect all filters
If the filter is dirty, clean with a vacuum cleaner
If the filter is still dirty then replace it with a new one
(These are available to order from Harvest Healthcare)
2. Remove the timer top and clean all dust and grease from all the air grooves using a cloth and a screwdriver, taking care not to remove the grease from the face surface.
3. Ensure that the hoses both inside the pump and also on the mattress are kink and split free.
If any splits are found then replace all the damaged area.
(These are available to order from Harvest Healthcare)

4. Ensure that the pump is giving out enough MMHG (millimetres of mercury) on the maximum output by using either a sphygmomanometer or any mercury / digital pressure gauge. If not adjust the comfort control parameters to the correct range. If the pump is still not achieving the correct MMHG then replace the motor or the relevant defective parts.
(Contact Harvest Healthcare for guidance on how to repair the diaphragm.)
5. Check that the comfort control is working within the correct parameters. If not contact Harvest Healthcare for guidance.
6. Check that the timer is rotating; if it is not rotating replace it with a new one.
(These are available to order from Harvest Healthcare)
7. Check that all the indicators are working; if any are found to be defective replace them with new ones.
(These are available to order from Harvest Healthcare)

1. **Pumps**
All Harvest Healthcare Pumps have a guarantee for a period of 12 months from date of purchase.
2. **Mattresses/Seat Cushions**
All Harvest Healthcare Mattresses/Seats and Covers have a guarantee for a period of 12 months from date of purchase.
3. **Guarantee**
Harvest Healthcare guarantees to repair or replace pumps or mattresses issued to its customers which are found to be defective whilst still under the guarantee or warranty period (if applicable see our standard conditions on pages 12, 13 & 14). Harvest Healthcare's guarantees are subject to the following conditions:

That the equipment has been used for the purpose for which it was intended.