

# Instructions for use and maintenance

# Humeca cordless dermatomes type D42 and D80

with Li-lon battery pack



**CE** <sub>0344</sub>

IFU 11/01

## Contents

Page

SECTION I Instructions for use			
1.	Application	3	
2.	The main parts of the dermatome	3	
3.	Operation	3	
4.	Charging the batteries	3	
	4.1 Precautions	4	
	4.2 The charging procedure	4	
5.	Placing motor/battery cartridge in the dermatome	5	
6.	Inserting and removing the blade	6	
7.	Cutting skin or other tissue with the dermatome	7	
	7.1 Regular lubrication	7	
	7.2 Adjusting graft thickness	7	
	7.3 Adjusting graft width	7	
	7.4 Cutting	7	
8.	Cleaning	8	
9.	Sterilization	8	
10.	Atmospheric conditions during use and storage	9	
11.	Rules, CE-hallmark, responsibilities	10	
12.	Trouble shooting	11	
13.	Warranty	12	
14.	Technical datasheet	13	
15.	Ordering	14	
	Images section I	15-25	

# SECTION II Instructions for periodical maintenance 26-29

# **SECTION I**

# Instructions for use

#### 1. Application

The dermatome has been designed for (split) skin harvesting and debridement of open wounds.

#### 2. The main parts of the dermatome

The dermatome and accessories are shown in pictures 1, 2 and 3. Reference is made to the following parts:

- 1 Power shaft
- 2 Cutting head
- 3 Power switch
- 4 Graft thickness adjusting lever
- 5 Locking pin
- 6 Locking cap
- 7 Button rings for opening cover
- 8 Blade compartment cover
- 9 Motor cartridge

- 10 Battery cartridge
- 11 Disposable blades
- 12 Battery charger
- 13 Charger support unit
- 14 Sterile clamp
- 15 Width reducing clamp
- 16 Autoclave case
- 17 Sterile funnel
- 18 Lock-unlock switch

#### 3. Operation

After the coupled motor- and battery cartridges (9 and 10) are inserted in the power shaft (1) and when the locking cap (6) has been closed, the motor can be switched on by pressing the power switch (3) at the upper side of the shaft. The motor puts a rectangular blade in a reciprocating motion. The graft thickness is adjusted by the graft thickness-adjusting lever (4). The standard graft width can be reduced by placing a width reducing clamp on the cutting head (2). A lock-unlock switch prevents accidental run of the dermatome for safety reasons.

#### 4. Charging the batteries



#### Attention! Important security advice!

Connect only Lithium-Ion or Lithium-Polymer battery packs with 2 cells. Never connect other battery types. **Danger of explosion!** 

#### 4.1 Precautions

- Do not attempt to open or disassemble charger or batteries.
- Keep the charger in a dry place (indoor use only).
- For 1200 mAh battery use charger marked 9C94142/03 only.
- For 2400 mAh battery use charger marked 9C94142/01 only.
- Must not be operated under adverse circumstances (for example: inflammable gas, solvents, vapours, dust, humidity over 80% or temperatures under 0°C or above 40°C)
- In order to avoid risk of fire and/or electric shock, the charger must be protected against high humidity and condensation.
- Don't short-circuit. Avoid contact of terminals with metal objects.
- Keep out of reach of children and read instructions before use.
- Charge only rechargeable Li-lon or Li-Po batteries with an end of charge voltage of 4.2C per cell.
- To shut off the charger, disconnect it from the mains socket.

Failure to comply with the safety instructions may lead to damage to the charger and/or batteries and may cause serious injury to the user.

#### 4.2 The charging procedure

A battery cartridge (10) is coupled to the motor cartridge (9), as shown in fig. 4, steps 1, 2 and 3. Charging the batteries requires uncoupling of both cartridges. This is done by turning one of the cartridges a quarter turn, while holding the other one in position (fig. 4, steps 3, 2 and 1).

For charging the batteries you proceed as follows:

- Attach the right primary mains adapter to the charger (there is a slide on the charger that allows change of the adapters, see fig. 7a)
- Connect the charger to the mains socket. The green LED "Power" indicates the right connection and the yellow LED shortly lights up.
- Insert the round power plug (12e) of the charger (12) into the female connector of the charger support unit (13), as shown in fig. 5.
- Put the battery cartridge in the round opening of the charger support unit (note that it only fits one way). Secure with a quarter turn (fig. 6).

When connecting the battery, the yellow "Charge" LED lights to indicate the charging process. When the battery is fully charged, the charger switches off automatically and the yellow "Charge" LED is extinguished. If the yellow LED flashes for a period of time, the charger is checking if the battery was deeply discharged. After checking, the charger switches to the charge process and the yellow "CHARGE" LED lights continuously until the battery is fully charged. If the yellow LED keeps flashing and does not switch to the charge process, the battery pack may be defective.

To prevent its loss, you can place the motor cartridge in the groove of the charger support unit during charging the battery, as shown in fig. 8.

NOTE: The only way to shut off the charger is to disconnect it from the mains socket.

#### 5. Placing the motor-/battery cartridge in the dermatome

The motor- and battery cartridges should not be sterilized, at no time !!

- Couple the motor cartridge (9) to the battery cartridge (10) by sliding them into each other, followed by a quarter turn. The marking lines on the two cartridges should be in the same position (fig. 4).
- A circulating nurse now holds the non-sterile motor-/battery cartridge with the marked line (10a) showing upwards.
- A second person inserts the sterile clamp (14) into the back of the cartridge and lifts it up a little, as shown in fig. 9. Now the motor-/ battery cartridge can be handled without the risk of contamination.

# Attention: never hold the cartridge with the marking line downwards: it might fall off from the sterile clamp!

- Push the sterile funnel (17) over the backside of the dermatome, after having removed the locking cap (6 in fig. 2). Now push the motor/battery cartridge in the dermatome and see to it that the marking lines on the cartridge are in line with the marking 1a on the power shaft of the dermatome (see fig. 10).
- Remove the funnel (fig. 10 picture 4).
- Finally place the sterile cap at the end of the power shaft with one of the locking balls in line with the line on the power shaft and fix it with a quarter turn until it clicks (see fig. 11).
- By pressing the power switch 3, with the lock-unlock switch 18 in the unlock position to check proper run of the motor (fig. 12).

#### 6. Inserting and removing the blade

Warnings:

- Do not use other than Humeca blades in the D42 and D80 dermatome and do not use Humeca blades in other dermatomes.
- Always pay attention to the presence of a very sharp blade in the dermatome. Remove it before cleaning and maintenance and always handle it with care to prevent cutting accidents!
- The Humeca dermatome blades are single-use products. According to the amendment 2007/47/EC of the Medical Device Directive we want to point out that there are risks in using blades more than once. Persons involved in re-sterilizing the blades and others might cut themselves when handling and packaging the blades. Also packaging of the blades might be inappropriate to prevent accidental cutting by user and/or damage of the sealed pouch that assures sterility. Therefore Humeca will not accept any responsibility for second use of its dermatome blades.

#### Inserting the blade:

Hold the dermatome in one hand, the blade compartment cover (8) upwards. Press the round buttons (7) at both sides of the cutting head, using the thumb and index finger of the same hand and open the cover with the other hand (fig. 13).

Carefully put the blade (11) in the dermatome, the cutting edge to the front, taking care that the three pins (2a) interlock with the slots in the blade, as shown in fig. 14. Close the cover.

#### Removing the blade:

First open the blade compartment cover (see fig. 13) and then remove the blade by lifting the backside with a scalpel or forceps (see fig. 15). To facilitate lifting of the blade, a cavity has been made at the backside for easy access.

# Attention: Never try to lift the front (sharp) side of the blade (as shown in fig. 16) as this might seriously damage the instrument! Always lift it at the backside.

#### 7. Cutting skin or other tissue with the dermatome

#### 7.1 Regular Iubrication

Before sterilization (after cleaning) put a drop of oil (Humeca supplies Aesculap STERILIT<sup>®</sup> oil for this purpose) in the hole (1b) at the bottom of the shaft, situated closely behind the cutting head (Fig. 17). For smooth run, spread a drop of sterile water or salt solution (PBS) over the surface of the blade (fig.16). For periodical maintenance, cleaning and lubrication, please read the instructions in section II of this booklet.

#### 7.2 Adjusting graft thickness

Pull the disk at the locking pin (5) of the lever (4) and adjust the lever to the desired graft thickness (Fig. 19). After releasing the locking pin the lever is fixed. Cutting thickness is indicated in mm and inches (Fig. 19)

#### 7.3 Adjusting graft width

The standard graft width of the dermatome can be reduced by placing a width-reducing clamp on the head of the dermatome. For that purpose take the dermatome upside down in your hand (blade compartment cover upwards). Fig. 20 shows how the width-reducing clamp (15) is put into position. Push the upright hooks (15a) of the clamp behind the cover (8). Now move the clamp little by little forward, until its front closes round about the cover hinge (Fig. 21).

#### 7.4 Cutting

Switch the motor on by pressing switch (3) at the upper side of the power shaft (fig. 12). When cutting, push the cutting head evenly forward under slight pressure over the tissue or skin, while keeping the switch pressed in (Fig. 22).

For optimum cutting results and minimum resistance it is recommended to keep the skin slightly tightened on the spot and moistened with water or (paraffin) oil. The cut off skin flap is gripped on the sloping side of the cutting head by hand or using forceps. Do not use force to grip skin with forceps, as it might damage the instrument. To cut the strip straight off from the body, move the cutting head upwards, while the motor is still switched on.

#### Remark:

If the Humeca MEEK technique is applied for skin grafting on burns or other large skin defects, *never - during cutting - use oil or any other fatty substance as lubricant on the skin of the patient*. This would stand in the way of a good tack of the adhesive used in the MEEK technique. You can use water instead of oil.

#### 8. Cleaning

Immediately after use, when the blade has been taken out, remove the motor- and battery cartridge from the instrument (these are not to be cleaned) and clean from blood and tissue remnants with hot water and soap by hand. Afterwards, the instrument is to be cleaned by conventional procedures for cleaning surgical instruments.

Most parts of the dermatome are made out of anodised aluminium. The least damage to this material is observed when neutral cleaning agents are used in combination with demineralised water. Strong alkaline cleaning agents (pH>10) will cause visible changes to the surface of the aluminium like stains and colour fading. Hot air drying temperatures >  $90^{\circ}$ C should be avoided. Do not use H<sub>2</sub>O<sub>2</sub> (hydrogen peroxide) in the washing process, as it will damage the instrument.

A recommended procedure for cleaning and sterilization and advisory on cleaning agents is presented in a joint publication of Humeca and Diversey. It is provided with each instrument and available on request. You can also download it from <u>www.humeca.com</u>

#### 9. Sterilization

# <u>!! Never sterilize the motor-/battery cartridge !!</u>

Accidental sterilization of motor and/or battery is prevented when the Humeca autoclave case is used, because the dermatome does not fit in this case when the motor-/ battery cartridge is still inside the instrument. Therefore we strongly recommend the use of the Humeca autoclave case! For sterilization, proceed as follows (see the pictures of fig. 25):

- Remove and discard the disposable blade.
- Open the locking cap (6) (turn it a quarter and remove it) and take out the motor-/battery cartridge from the dermatome. Put this cartridge aside; it is not to be sterilized.
- Open the autoclave case 16. Inside this case there are some cams, as indicated in Fig. 25A.
- Put the cap (6) between the two cams 16b and place the funnel (17) over the four cams 16d, as shown in Fig. 25B.
- Put the dermatome, with the blade compartment cover (8) opened, in the case in such a way that the security cam 16c comes in the backside of the power shaft. The two cams 16b interlock with the slots, indicated as 2f in Fig. 25. For good cleaning we advise to put the thickness adjustment lever (4) at maximum thickness position.
- Put the width reduction clamps and the sterile clamp in the case.
- All parts, except for the motor-/battery cartridge can be sterilized with saturated steam using common and accepted procedures for surgical instruments in the hospital.
- Close the cover of the autoclave case and sterilize it at the common temperature of 134 °C (usually 5-10 minutes) or 121 °C (prolonged exposure time of approx. 20 minutes).
- Note: If by accident the battery cartridge was sterilized, replacement of only the battery pack inside (not the cartridge housing) is possible. If the motor cartridge was sterilized, replacement of only the motor (not the cartridge housing) is possible. See chapter 15 "Ordering" for the ordering numbers.

#### 10. Atmospheric conditions during use and storage

For use/storage of the instrument, please mind the following conditions:

- Ambient temperature 15 45 °C
  - 35 80%
- Relative humidity 35
- Atmospheric pressure 850 1070 kPa (640 800 mm Hg)

#### 11. Rules, CE-hallmark, responsibilities

- The management system of Humeca for design, production and sales has been certified according to EN ISO 13485:2003.
- EMC data of the Humeca dermatomes are included in a rational of the technical dossier. This record (Rational D003) may be seen at the office of Humeca. The device is electromagnetic compatible, which means that it does not interfere with other equipment in its environment.
- According to the European Medical Device Directory 93 / 42 / EEC dermatome and blades come under the head of Class IIa products.
- According to IEC 601-1:1998, the Humeca dermatomes are classified as "Type BF Applied Part".
- The CE-hallmark is indicated on the dermatome and on the package of the blade.
- Do not use other than Humeca blades in the D42 and D80 dermatome and do not use Humeca blades in other dermatomes.
- Do not use a dermatome blade in case the package is damaged.
- Humeca D42 and D80 dermatomes are not for use in the presence of flammable anaesthetics (AP/APG classification).
- The manufacturer considers being only responsible for the safety and performance of the dermatome and the battery charger, if these are used in the way as described in this manual. For replacements only original spare parts have to be used. Replacements have to be carried out by the manufacturer or by his authorized local representative. Repairs are only carried out if the product is carrying the users official repair form. All repairs carried out will be specified on a delivery note. In connection with safety and performance it is only allowed to charge the battery using the original charger.

# 12. Trouble shooting

Problem	Possible cause	Solution
	Battery not charged	Charge battery and try again
Dermatome doesn't run and	Battery out of order	Check battery cartridge. See section 7. Repair or replace if necessary
outside the dermatome the button of the microswitch at the coupled cartridge is	Problem with charging	Check charger and battery support. See section 9. Repair or replace if necessary
pressed	Motor cartridge out of order	Check motor cartridge. See section 8. Repair or replace if necessary
	Microswitch broken	Send dermatome to dealer
Dermatome doesn't run, but you can hear the motor running in the power shaft	Motor axis cross pen broken or lost or cylinder on axis loose	Send motor cartridge to dealer
Dermatome doesn't run and motor doesn't run, but motor runs when outside the dermatome the button of the microswitch at the coupled cartridge is pressed	Some moving part is mechanically blocked, probably caused by dirt or inferior lubrication	Clean and lubricate all parts of the cutting head. If this did not help, send dermatome to dealer
Dermatome runs, but the blade doesn't move at all	Pins on the lever broken or lever worn out	Replace the lever
Dermatome runs, but the blade hardly moves	Slot-shaped hole in the lever worn out	Replace the lever
Button rings for opening the cover are stuck	Persistent dirt on the button rings	Clean button rings with fine-grain sandpaper
Dermatome doesn't cut at low position of thickness adjusting lever.	Thickness not correctly adjusted or initial adjustment changed	Send dermatome to manufacturer
Blade compartment cover cannot be closed	Locking mechanism stuck by dirt	Clean locking mechanism inside cutting had
	One of the screws at the outside of the motor- or battery cartridge is loose	Fix screws
Motor/battery cartridge doesn't fit in the power shaft	Some other part of the cartridge stands out	Carefully try to bend back. If not succeeded, replace cartridge housing (consult dealer)
	Marking line on the cartridge not in line with the mark on the dermatome	Take out cartridge and reposition corresponding lines and mark

### Trouble shooting (cont'd)

Battery pack is connected	Batteries fully charged	Do not charge batteries
properly but the charge LED "CHARGE" doesn't light	Battery not connected properly	Check all connections
yellow	Contacts are dirty	Clean contacts
	Faulty battery	Replace battery
Charger is connected but	No current on mains	Check mains power supply
green LED doesn't light	Faulty charger	Replace charger
	Wrong polarity of battery pack	Consult dealer
Yellow charge LED remains flashing and it doesn't switch to light continuously	Battery cartridge not correctly connected to the charger support	Connect correctly
	Faulty battery pack	Replace battery pack

#### 13. Warranty

There is a two years guarantee on all parts of the dermatome. The batteries are under a one-year warranty.

This guarantee does not include repairs or replacements if:

- the batteries were charged using a different type of charger,
- the motor- and/or battery cartridge was sterilized,
- other than original spare parts were used for repair by user,
- the dermatome was used for other applications than the ones mentioned in this manual.

Guarantee includes free of charge repairs, if these are necessary as a result of trouble / defects that occurred during normal use of dermatome and charger. In case of problems please contact your local dealer.

#### 14. Technical datasheet

#### Dermatome

Total weight D42, small / large grip Total weight D80, large grip Weight motor cartridge Weight battery cartr. 1200 / 2400 mAh Length dermatome with small / large grip Width head type D42 / D80 Maximum diameter small / large grip Cutting width D42 / D80 Cutting width using clamps D42 Cutting width using clamps D42 Cutting width using clamps D80 Graft thickness / increments (mm) Graft thickness / increments (inches) Stroke of blade Motor capacity / rpm

#### Battery

Voltage / capacity battery pack, small Voltage / capacity battery pack, large Battery chemistry

#### Charger for 2400 mAh battery

Power supply primary Nominal output voltage Charge current Time to charge empty battery Charger is supplied with international adapters

#### Charger for 1200 mAh battery

Power supply primary Nominal output voltage Charge current Time to charge empty battery Charger is supplied with international adapters

#### Disposable blades

Type Width / Thickness Length D42 / D80

#### Autoclave case

Dimensions for D80 (lxwxh) Dimensions for D42 (lxwxh) Weight of case for D42 / D80 985 / 1.115 g (35 / 39 oz) 1.330 g (47 oz) 325 g (11.5 oz) 149 / 240 g (5.3 / 8.5 oz) 272 / 295 mm (10.7 / 11.5") 64 / 104 mm (2.5 / 4.1") 40 / 45 mm (1.6 / 1.8") 42 / 80 mm (1.65 / 3.15") 36 and 30 mm (1.42 / 1.18") 65, 50 and 35 mm (2.56, 1.97 and 1.38") 0.1-1.2 / 0.1 mm 0.004 - 0.048 / 0.004 " 3,0 mm (0.12") 15 W / 7.030 min<sup>-1</sup>

7.4V / 1200 mAh 7.4V / 2400 mAh Li-Ion (no memory effect)

100-240V / 50-60Hz 7,4 VDC 1200 mA 2,0 h

100-240V / 50-60Hz 7,4 VDC 400 mA 3.0 h

Double facet grinded 19 / 0,38 mm (0.75 / 0.015") 50 / 90 mm (1.97 / 3.15")

375x130x52 mm (14.8x5.1x2.05") 375x90x52 mm (14.8x3.5x2.05") 717 / 910 g (25 / 32 oz)

**Note:** Details on electromagnetic immunity and emission (EMC) are given in the declaration 'Guidance and manufacturer's declaration EMC (electromagnetic immunity) for dermatomes', supplied separately with each dermatome.

#### 15. Ordering

#### Equipment

4.D42STS D42 dermatome, complete set, 1200mAh Li-Ion battery (stand
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- 4.D42STSx D42 dermatome, complete set, 2400mAh Li-Ion battery
- 4.D80STS D80 dermatome, complete set, 2400mAh Li-Ion battery (standard)
- 4.D42 D42 dermatome without battery- and motor with small grip for 1200mAh battery
- 4.D42x D42 dermatome without battery- and motor with large grip for 2400mAh battery
- 4.D80 D80 dermatome without battery- and motor with large grip for 2400mAh battery
- 4.ANS-HC Charger for Li-Ion battery 2400 mAh
- 4.ANS-LC Charger for Li-Ion battery 1200 mAh
- 4.SU01 Dermatome charger support unit
- 4.BC7.4V2400 Dermatome battery cartridge 7.4V, 2400 mAh
- 4.BC7.4V1200 Dermatome battery cartridge 7.4V, 1200 mAh
- 4.BF7.4V2400 Dermatome battery pack 7.4V, 2400 mAh (only pack, not cartridge)
- 4.BF7.4V1200 Dermatome battery pack 7.4V, 1200 mAh (only pack, not cartridge)
- 4.MCX15 Dermatome motor cartridge
- 4.D42CL30 D42 width reducing clamp 30 mm (1.18")
- 4.D42CL36 D42 width reducing clamp 36 mm (1.42")
- 4.D80CL35 D80 width reducing clamp 35 mm (1.38")
- 4.D80CL50 D80 width reducing clamp 50 mm (1.97")
- 4.D80CL65 D80 width reducing clamp 65 mm (2.56")
- 4.D42AC1 D42 sterilization case
- 4.D80AC1 D80 sterilization case
- 4.SCL Sterile clamp
- 4.SF01 Sterile funnel for small diameter grip
- 4.SF02 Sterile funnel for large diameter grip

#### Disposables

5.D42BL10	D42 dermatome blades, box 10 pcs.
5.D80BL10	D80 dermatome blades, box 10 pcs.
2.JG598	STERILIT <sup>®</sup> oil for surgical instruments, bottle 50 ml (1.7 fl.oz)

For more information, please contact your local Humeca representative or:

Hume	ca BV		
P.O. Box 40175			Het Bijvank 251-a
7504 RD Enschede			7544 DB Enschede
The Netherlands			The Netherlands
phone	e: +31 53 4762619	e-mail:	info@humeca.nl
fax:	+31 53 4771905	web:	www.humeca.com

Humeca is an EN ISO 13485:2003 certified company.

Humeca cordless dermatomes type D42 and D80

Images



Fig. 1 The dermatome with accessories



Fig. 2 Upper side



Fig. 3 Dermatome under side



Fig. 4 Coupling of motor- and battery pack of a D42 dermatome



Fig. 5

Connect charger to support unit



Fig. 6 Putting the battery cartridge in the charger support unit









Fig. 8 Charger connected to support unit for charging process (motor nearby to prevent loss)



Fig. 9 The use of the sterile clamp to handle the motor-/battery cartridge



Fig. 10 Placing the motor-/battery cartridge in the dermatome, using the sterile funnel



Fig. 11 Placing the sterile cap to close the shaft of the dermatome



Fig. 12 Switching on the dermatome



Fig. 13 Opening the cover for access to the blade compartment



Fig. 14. Inserting blade



Fig. 15 Right way to remove blade



Fig. 16 Wrong way to remove blade





Fig. 17 External lubrication

Fig. 18 Smoothening the blade



Fig. 19 Adjusting the graft thickness



Fig. 20 Placing width reducing clamp (1)



Fig. 21 Placing width reducing clamp (2)



Fig. 22 Skin harvesting



Fig. 23 Removing the covering plate



Fig. 24 internal lubrication and cleaning of the dermatome





Fig. 25. The use of the autoclave case for sterilization of the dermatome and its accessories

#### SECTION II

## Instructions for periodical maintenance

Twice a year, or after about 25 cuttings, it is advised to clean and lubricate the internal of the cutting head to assure good operation and long service life of the dermatome. The pictures below refer to the D42 dermatome. There are some differences with the D80 dermatome, but the procedure is similar. Tools are in the suitcase of the dermatome.

- Remove the covering plate by loosening the four screws, indicated as 2b in fig. 3a, with a Torx 10 driver or L-key and clean it with a dry cloth. If the plate sticks to the underground, it can be lifted by putting a screw driver in the cavity shown in fig. 3b. Clean the plate with a cloth and water. There should be no dirt in the area between the plate and the cutting head. Check the guiding pins (2m in fig. 1). If they are worn out, the covering plate has to be replaced. For ordering, please refer to order no. P801501 for a D80 dermatome and P421501 for a D42 dermatome.
- Take out the lever (2d), see fig. 3c and fig. 2. Clean it and check the pins 2d1 and 2d2 on wear. Also check the slot-shaped hole 2d3. If this holes has become bigger due to wear, the movement of the blade ("stroke") becomes less and finally the lever has to be replaced. If necessary replace the lever by a new one. Refer to ordering no. P421301.



Fig. 1 Covering plate of a D42 dermatome



Fig. 2 Lever

- If possible take out the bearing 2g (fig. 3d) and clean it. If the bearing cannot be removed, clean the hole in it while the bearing remains in position. Attention: the bearing consists of two parts, a stainless steel cylinder and a small brass plate. Be careful not to lose them.







Fig. 3c Removing the lever



Fig. 3b Cavity for lifting covering plate



Fig. 3d Removing bearing



Fig. 3e Removing horn



Fig. 3f Removing locking buttons



Fig. 3g Cavity to be cleaned



Fig. 3h Gearwheel to be cleaned

- Remove the horn (2i in fig. 3e) by lifting it after having removed the screw, indicated by a red arrow in fig. 3e and clean it. In the D80 dermatome the horn consists of two separated parts.
- Take out the button rings (7) for opening the cover and the spring 2k (see fig. 3f) and clean them. In the D80 dermatome there are two springs. Please refer to order number P421405 for replacing springs.
- Clean the interior of the cutting head (fig. 3g).
- Clean the gearwheel 2I, shown in fig. 3h and check if the little pin on the gearwheel and the gearwheel itself on wear. If it has to be replaced, please consult Humeca or your dealer.

#### Assembling after cleaning

After cleaning, please use the following sequence for assembling:

- Put some oil on the underside of the gearwheel 2I (fig. 3h) and turn the wheel round a couple of times. The wheel should run smoothly. If it doesn't, you are advised to consult your supplier.
- Replace the two button rings 7 and the spring 2k in the cavity (in case of the D80 dermatome there are 2 springs). Please note that the spring should come over the cams on the rings (see fig. 4 below).



Fig. 4 Correct orientation of the button rings and spring

- Replace the horn (2i in fig. 3e) while gently pressing the button rings 7 and fix it with the screw. In the D80 dermatome the horn consists of two parts that are fixed with two screws.
- Check the smooth run of the locking mechanism. You may put some oil on the button rings if necessary.
- Replace the bearing 2g (fig. 3d). First place the brass ring and then the cylinder in the hole and afterwards put some oil in it.
- Replace the lever 2d (fig.3c). Lubricate the driving mechanism. Check smooth run of the mechanism by turning it by hand.
- Replace the covering plate (fig. 3a), after having cleaned the underside of it (very important!). Fix it with the four screws.
- After assembling check the dermatome for smooth run.

In case of loss or damage of screws, please refer to the order numbers listed below:

- ISO 14581 M3x10 A2-70 (Torx): screws in the covering plate.
- DIN 912 M3 x16: Screw(s) in the horn.

For any assistance please contact your local dealer or:

Humeca BV Het Bijvank 251-a 7544 DB Enschede The Netherlands

 T:
 +31 53 4762619

 F:
 +31 53 4771905

 Email:
 info@humeca.nl

 Web:
 www.humeca.com