

# **Focused Ultrasound**

## **INTRODUCTION**

WL-H221 is a computerised system for body contouring, a treatment that uses the action of ultrasounds to reduce localised adiposity and cellulite.

WL-H221 focused ultrasound emits a powerful double beam of low-frequency modulated ultrasound waves (20 Khz- 60 Khz) on a 1 MHz carrier thus guaranteeing excellent results in a non-invasive, safe and completely painless manner.

Each ultrasound is capable of emitting a mean power of 3 W/cm<sup>2</sup> with peaks that can reach as high as 30 W/cm<sup>2</sup>.

The handpiece uses vacuum technology which lifts the adipose tissue on which the ultrasounds will act, preserving the underlying tissues and thus enhancing the effectiveness and safety of the treatment which focuses only on the area involved.

The major reduction effect that can be achieved on localised adiposity and cellulite is given by the cavitation phenomenon, provided that the treatment is performed with low-frequency ultrasounds and adequate power.

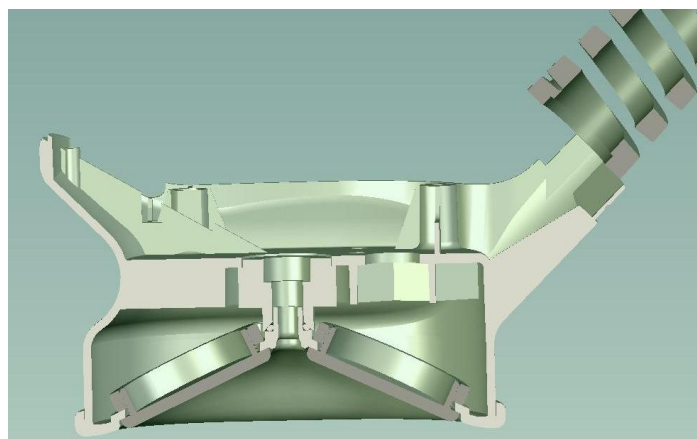
The ultrasound frequency is the parameter that affects the wave penetration depth and hence its action. The lower the frequency, the deeper the penetration.

Very low frequencies produce a cavitation effect that damages the adipose cells causing them to gradually break up; of course, the extent of the effect also depends on the ultrasound power (in our case, you can select - in manual mode - between 0.3 and 3 W/cm<sup>2</sup> in steps of 0.3 W/cm<sup>2</sup>).

The device is also equipped with a draining handpiece which allows performing immediate lymph drainage of the areas treated thus stimulating the metabolic processes that will lead to natural elimination of the fat waste by the organism. The result is a large reduction of the fat mass and the panniculi of cellulite and consequently a more toned and smoother appearance of the tissues in the areas treated.

## **FEATURES**

WL-H221 has a patented dual inclined emitting ultrasound system and the action is conveyed to the adiposity only.



**Fig. 1**

## INDICATIONS

Localised adiposity of varying thickness, fibrous, oedematose, oedematose-fibrous cellulite.

## CONTRAINDICATIONS

Any kind of skin disease, vascular lesions and capillary fragility, pregnancy and breast-feeding, malignant lesions, tumours, diabetes, hypercholesterolaemia, acute or chronic inflammations, prostheses, metal implants, pace makers, cardiopathies, thrombosis and/or thrombophlebitis, and metabolic problems.

## SIDE EFFECTS

In rare cases, the skin surface may burn caused by the strong heat applied on the area treated, which normally reddens but returns to its normal colour after a few minutes.

## OPERATION

- Thoroughly disinfect the parts that will come into contact with the skin, i.e. the entire lower part of the ultrasound handpiece, the two circular emitters and the elastomeric membrane of the draining handpiece and its transparent adapter. Use an antibacterial product, spraying it onto a cloth or paper towel but not directly onto the machine.
- Turn on the machine with the button on the back panel. The touch screen display lights up offering the possibility of selecting the cavitation or the draining handpiece. Select the "Lymph Leading" (Fig 2).

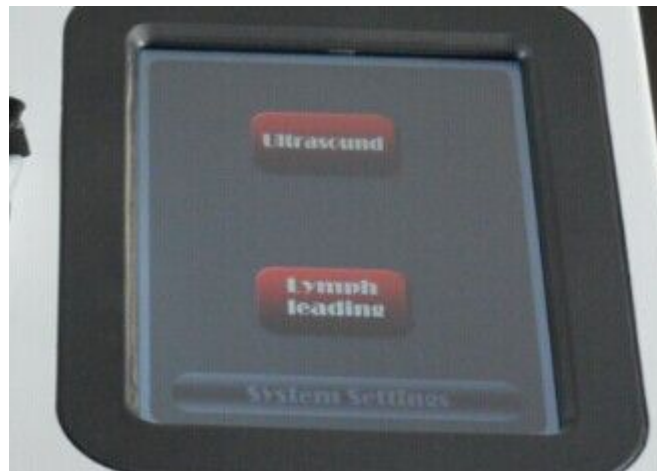


Fig. 2

- Apply the treatment oil on the area to be treated, massage lightly with your hands so as to relax the patient and allow the product to penetrate the skin making the tissues more elastic and easier to treat. You can use a natural massage oil or a specific cellulite, lipolytic, toning oil, etc.  
It is inadvisable to apply cream or gel before the treatment.

The treatment is started by opening the main lymph nodes in order to facilitate the flow of excess fluids and encourage their removal. The lymph ganglia can be opened by hand or using the dedicated lymphatic drainage draining handpiece. The lymph coming from a precise part of the body converges at each lymph node.

Each part of the body is connected to the others by a dense communication network that allows continuous interchange.

In the upper part of the body, the lymphatic vessels converge towards the lymph nodes of the neck (Terminus) and the armpit receiving the lymph coming from the upper limbs and the back.

In the lower part of the body, the lymphatic vessels converge towards the surface inguinal lymph nodes and the popliteal nodes receiving the lymph coming from the lower limbs and the abdomen.

### 1. Neck

Always treat the terminus at the beginning of each session, irrespective of the area to be treated.

**Manual opening:** always point your fingertips towards the proximal lymph drain (hands spread out, elbows pointing outwards). Press until you can feel the lymph nodes and produce their dynamization (press and release while turning).

**Opening with HFD-Aquariushape:** select the draining handpiece, press Settings, select Lymph ganglia, select Terminus by moving the arrow, select 30% vacuum. Rest the handpiece on the area within the collarbone, press the start button on the handpiece and without exercising any pressure, work on the area for approximately one minute, change side and work for another minute (Figs. 3-4).

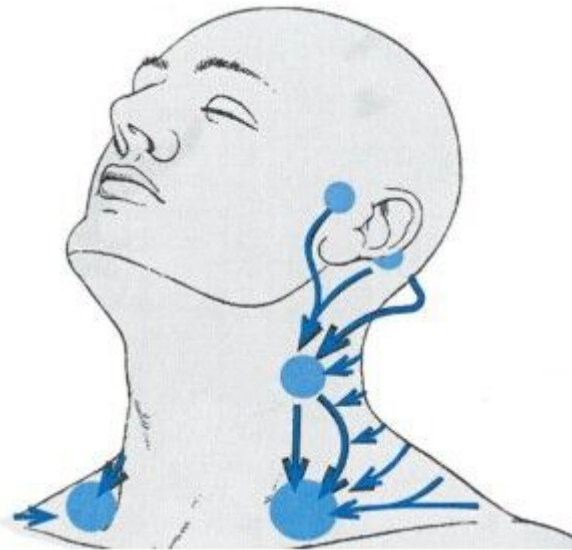


Fig. 3

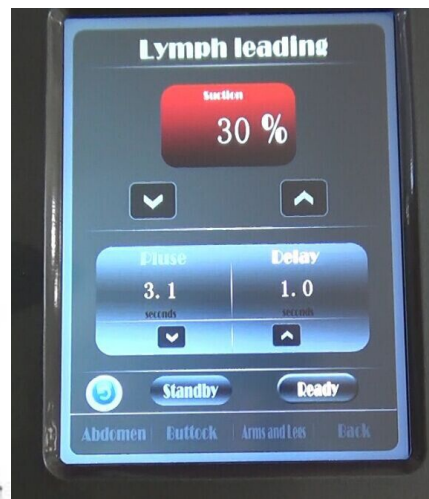


Fig. 4

### 2. Upper limbs

**Manual opening:** make a closed circular movement with the palms of your hands overlapping in the area where the axillary lymph ganglia to be drained are located.

**Opening with lymphatic drainage:** select the lymphatic drainage handpiece, press Settings, select Lymph leading, select Armpit by moving the arrow, select 30% vacuum. Confirm, rest the handpiece on the area, press the start button and perform the treatment for approximately 1-2 minutes, change side and work for another 1-2 minutes .

### 3. Groin

**Manual opening:** make closed circular movements on groin ganglia, which are essential for emptying them.

**Opening with lymphatic drainage:** select the lymphatic drainage handpiece, press Settings, select Lymph leading, select Armpit by moving the arrow, select 30% vacuum. Confirm, rest the handpiece on the area, press the start button and perform the treatment for approximately 1-2 minutes on each side .

#### 4. Knee

**Manual opening:** pump the medial area of the popliteal fossa behind the knee, always using your hands and generally when massaging in the oil for leg treatment (Fig. 5).




Fig. 5



Once this phase has been completed, the operator can begin the treatment on the part of the body involved, setting the machine according to the pathology.


The Med Contour Dual ultrasound device can operate in automatic or manual mode. It is advisable to begin working with the ultrasound handpiece in manual mode where you select all the parameters based on a careful analysis made on the patient prior to the treatment.

#### **MANUAL MODE**

Select "Power", then press  and  to adjust from 10% to 100% in steps 10%

Select "Suction", then press  and  to adjust from 10% to 100% in steps 10%

Select "Pulse", then press  and  to adjust from 0.1s to 5s in steps 0.1s

Select "Delay", then press  and  to adjust from 0.1s to 5s in steps 0.1s


Select "Modulation", then press  and  to adjust from 1Khz to 60Khzs in steps 1Khz



Fig.6

It is advisable to split the treatment into not too large areas of the body in order to achieve better results. Some examples: Abdomen and hips - lower limbs - buttocks and "saddle bags"- upper limbs and back .

After setting the appropriate parameters, press Confirm. The machine is now ready for operation.

- Rest the cavitation handpiece on the area to be treated and check that it is perfectly in contact with the skin, then press one of the two buttons on the sides of the handpiece and slide it. Should it be difficult to slide the handpiece, apply some more oil on the skin so that it slides more smoothly making the massage pleasant for the patient.
- Slide the handpiece over a not too large area, then press Stop and repeat the treatment on the same area until the tissue becomes reddish (being careful not to burn the skin). Move the handpiece by about 2 cm and repeat the operation until you have completely covered the area to be treated (arm, abdomen, leg, gluteus, etc.).

#### - **AUTOMATIC MODE**

Depending on the pathology, select Localised Adiposity or Cellulite (remember that localised adiposity feels warm to the touch and is normally present in women in the area of the hips and in men often on the abdomen, while cellulite often feels cold to the touch, sometimes with damaged capillaries, in some areas very compact because of the presence of knots, and sometimes with dimples and blotches of colour due to poor circulation).

- Select the area to be treated.
- Select the intensity of the massage also taking the patient's sensitivity into account.
- Press Ready.
- Wait until the sequence of emissions has been completed (the duration depends on the program used and may vary from 4 to 6 seconds). Move the handpiece by about 2-3 cm and press the start button again. If possible, always move the handpiece in the direction of the lymph nodes pertinent to the area treated.
- Repeat the above operation for the time suggested by the machine, concentrating on the more critical and not too large areas.

**NOTE: If the selection you made produces too intense heat in the patient, go down to the lower level (from intense to medium).**

## LYMPH DRAINAGE

After finishing the treatment with the cavitation handpiece, press Back and select the lymph drainage handpiece.

- Select Settings, then select the area to be treated.
- Set suction depending on the tone of the patient's tissues and the percentage vacuum between 50% and 75%.
- Check that there is sufficient oil on the area to be treated to allow the handpiece to slide smoothly over the skin. Rest the draining handpiece on the area to be treated and press the start button on the handpiece

## ABDOMEN TREATMENT

Position the handpiece perfectly in contact with the skin, press the start button on either side of the handpiece and move slowly clockwise following the movement of the peristalsis. (Fig. 7).

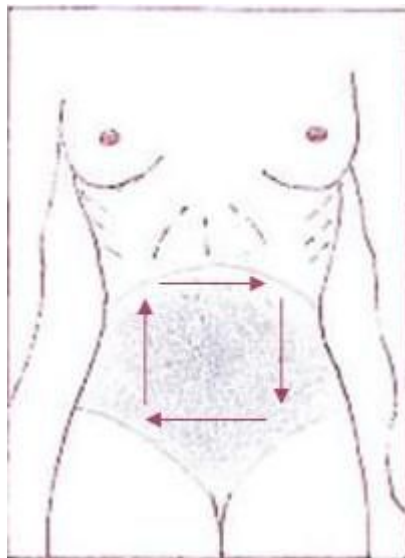


Fig. 7

- Drainage of the abdomen occurs half in the lymph node and half in the terminus. Slowly slide the handpiece over the skin following the rhythm of the 50-75% vacuum (Figs. 8).

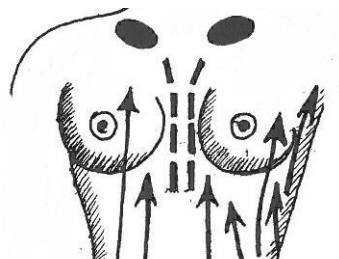


Fig. 8

### **GLUTEUS TREATMENT**

- Position the ultrasound handpiece perfectly in contact with the skin and slide it very slowly in the direction of the inguinal lymph node .
- Perform drainage repeating the same movements with 50-75% vacuum (Fig. 9).

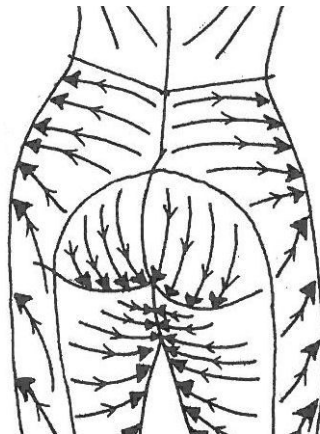


Fig.9

### **LOWER LIMBS TREATMENT**

#### Front::

Begin the treatment in manual mode positioning the ultrasound handpiece in the inner fascia of the thigh and slide it from the knee towards the lymph ganglion.

Repeat the same movement until the tissue overheats and reddens.

Then go to the central area and finally the outer area, thus covering the entire upper part of the limb from the knee to the groin .

To work on the calf, the patient needs to slightly bend his or her leg so that you can act on the entire surface and work from the ankle towards the kneecap, i.e. from bottom to top.

Use automatic mode when the patient has small adipose build-ups, for example, saddle bags in the inner knee, or where an intense and localised treatment is required.

After completing the massage with the ultrasound handpiece, immediately perform drainage repeating the same movements (Fig. 10).

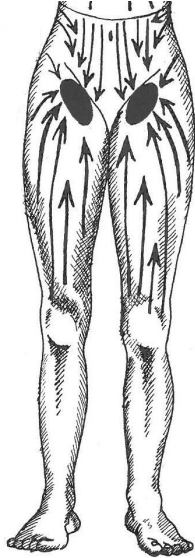


Fig. 10

### Back:

Have the patient change position and lie down prone on the bed.

The movements to be made are the same as for the front part.

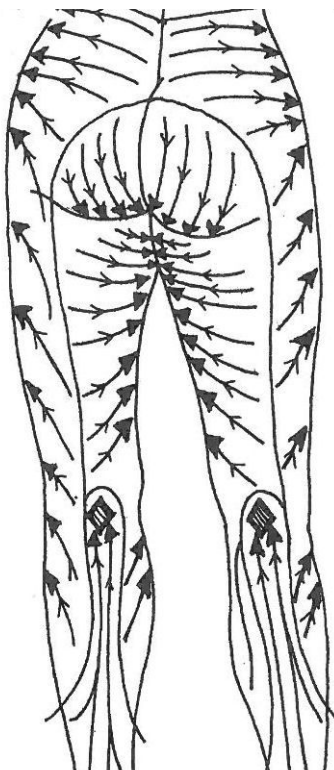
Begin the treatment by sliding the ultrasound handpiece in manual mode from in the inner thigh to the line of the gluteus, repeating the same movement until the tissues redden.

Then move the handpiece to the medial area of the popliteal fossa behind the knee and so on until reaching the outer thigh (trochanter area). Cover the entire surface of the upper thigh.

To work on the back of the calf, slide the handpiece from the top of the Achilles heel up to the popliteal fossa (Fig. 11).

Also in this case, automatic mode should be used only for the more critical and not too large areas.

After completing the massage with the ultrasound handpiece, immediately perform drainage repeating the same movements.





**Fig. 11**

## **BACK TREATMENT**

- Position the ultrasound handpiece perfectly in contact with the skin, then slide it from the inner to the outer side of the back and then from the hip directly to the axillary lymph node Fig. 12).
- Perform drainage repeating the same movements with 50-75% vacuum.

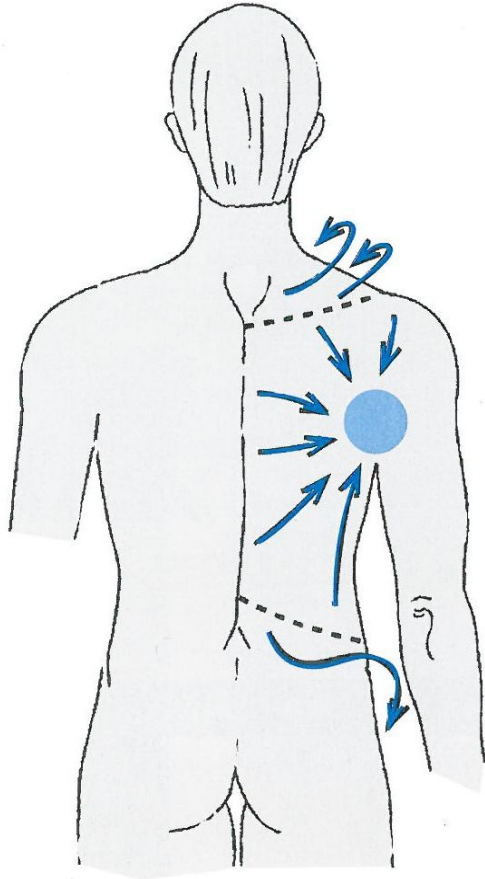


Fig.12

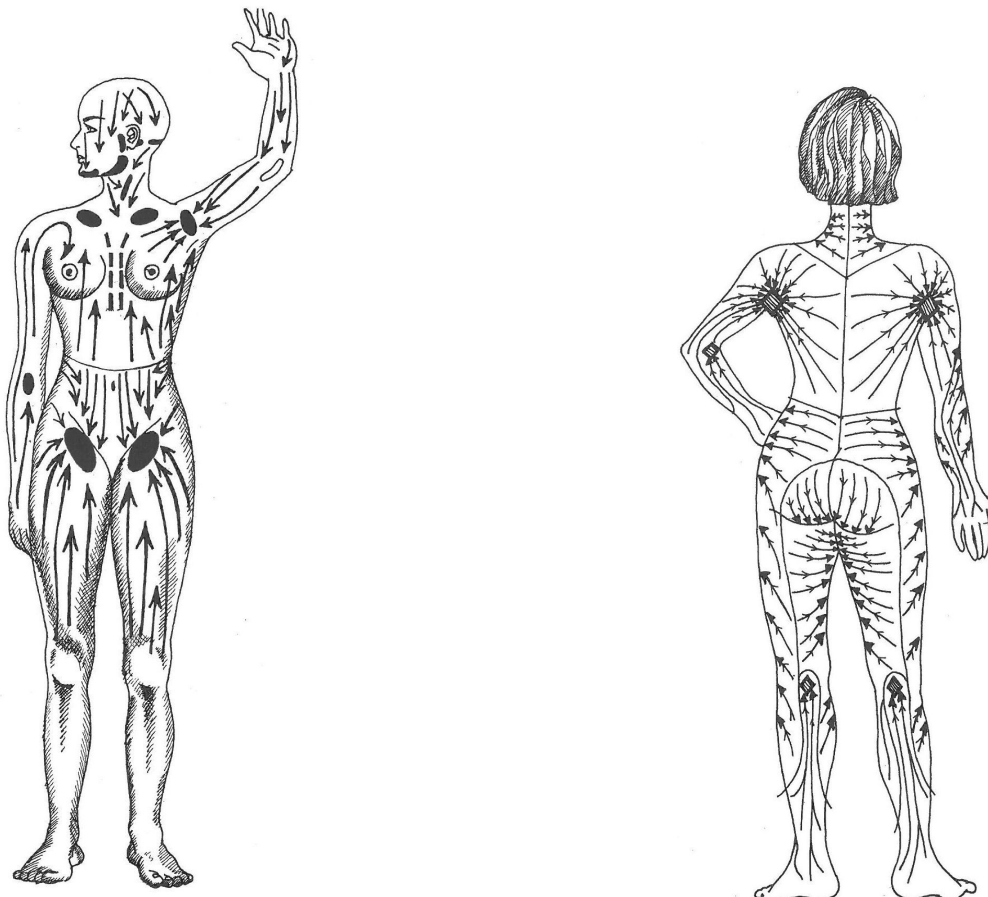
## **UPPER LIMBS TREATMENT**

- Turn on the handpiece only after making sure that it is in contact with the skin, perform the treatment on the arm in manual mode sliding the handpiece slowly towards the armpit and then the forearm stopping in proximity of the elbow. When the limb is too small, it is advisable to perform the treatment directly using the automatic program again beginning from the upper arm and moving towards the forearm.
- Drainage of the upper limbs occurs in the axillary lymph nodes. Slowly slide the handpiece over the skin following the rhythm of the 50-75% vacuum (Fig. 13).



Fig. 13

**MAIN LYMPH DRAINAGE PATHS**



## HFD-Aquariushape PROGRAMMES

The recommended treatments consist of one session a week complete with ultrasound handpiece + draining handpiece followed two days later by only a complete lymph drainage session

The duration of the treatment cycle is normally 4-12 weeks, variable depending on the needs of the individual patient.

A complete weekly treatment takes about 60 minutes, but may vary based on the size of the area to be treated.

The lymph drainage to be performed two days later should take about 30-50 minutes.

Moderate physical exercise after each treatment will encourage getting rid of the fat waste and is therefore highly recommended. A correct low-fat diet is also recommended in order not to strain the organism already engaged in getting rid of the fat waste, and to maintain and consolidate the results obtained. During the session of treatments , the patient must drink two litres of water for day, to stimulate the lymphatic system.

Application	Description
Localised adiposity Thickness: reduced - medium – high	Localised adiposity in women is normally concentrated in the lower part of the body in the areas sensitive to the actions performed by the female hormones. The fat deposits are usually around the hips . In males, on the other hand, localised adiposity is usually in the abdominal area. To treat these imperfections, use the Localised Adiposity program selecting the degree of thickness in relation to the patient's condition.
Oedematose cellulite	Cellulite is a problem that affects the hypodermis (tissue that is located below the dermis) and is caused by a deterioration of the adipose cells that increase in volume, together with an increase in water retention and the liquid trapped between cells.. Cellulite can be classified in various stages. Oedematose cellulite mainly consists of fluid stagnation on tissue level and is noticeable only to the touch. Slowed-down lymphatic circulation is unable to eliminate the stagnant fluids in the interstitial tissue.
Fibrous cellulite	At this stage, cellulite is visible as fluid stagnation and poor circulation produce swelling of the adipose cells. Quite hard knots form which may also cause cramps and “pins and needles”.
Sclerotic (or oedematous- fibrous) cellulite	This program is used in the most serious stage when cellulite is sclerotic. The knots have hardened and are painful and the skin resembles a mattress. The tissues are flaccid in some areas (where fluids have stagnated) and compact in others (where knots have formed). The areas are cold to the touch and the capillaries are damaged. The tissue is hard to the touch with dimples and blotches of colour.
Lymph node opening	At the beginning of each session, the lymph ganglia need to be opened. They can be opened using the special draining handpiece programs.
	After each cavitation treatment, lymph drainage needs to be performed

