

thermoderm[®] 2000

Vital processes depending on temperature

The metabolism of the skin and muscles depends on temperature: an increase of 1°C results in 13% increase in the speed of the metabolism. Oxygen consumption of cells is multiplied by 2-3 if the temperature is increased by 10°C. The skin responds to the fluctuations of temperature through its regulatory mechanisms: blood flow through increases or decreases, the blood vessels dilate, and more sweat is secreted.

Changes of temperature are perceived by the quite special "antennas" of the skin, by the thermoreceptors. The points of cold and hot perception are present in the skin in different numbers: there are 1-5 cold points in an area of 1 cm², while the number of hot points is only 1 in an area of 2.5 cm².

The face skin is the most sensitive area of the whole body in respect of heat-effects: here are 16-19 cold points in a unit of skin surface. That's why the cold treatment carried out with the thermoderm[®] 2000 device has such a spectacular effect.

Heat receptors are active between 30-45°C - their maximum sensitivity is somewhere between 37-43°C. That's why the temperature of the skin-ironing program of our instrument can be set between 36-44°C.

The heating up of the skin

Due to perspiration, superficial thermal therapy results in removal of waste materials from the skin. The thermal effect makes the vessels dilate, thus the blood flow through of the skin is improved, as well as the nutrition of the skin and the removal of waste materials. The dilated pores facilitate the penetration of active ingredients: the emulsions, ointments and serums penetrate more effectively than without the thermal effect.

The catalysts of metabolic processes - the enzymes - work with higher intensity at higher temperatures, thus metabolism accelerates and building processes become more emphasized. The collagen and the effect exercised on the flexible fibres make the skin to become more elastic.



Thermophoresis

The device has been designed to carry out one of the three electro-cosmetic methods for intake of active ingredients, the thermophoresis with heat, thus this is its main function.

This method is suitable for the intake of every water or oil-soluble preparation, especially for the "dissolution" and more uniform spreading on the skin surface of oilier and denser cream masks.

This method without direct current effect means a safety alternative in all cases when the patient couldn't be treated with current (pregnancy, pacemaker, afraid of treatments carried out with current), and when the use of ultrasound is contraindicated (for example the treatment of tissues of the breast or over sensitive areas), or when the ultrasound can't penetrate into the treatment products (for example preparations consisting powder).

The handpiece is evidently made from such type of material that doesn't get into chemical reactions with the active ingredients, therefore doesn't influence their biological activity.



Skin-ironing and trap of active ingredients

The essence of the most complex treatment program of the device is that in the hot phase (36-44°C) and in the cold phase (18-25°C) - using the optimal ranges of temperature for the function of the heat receptors of the skin - can influence the metabolic processes. The heating up is objected to stimulate the metabolism in the skin, the cooling down prevents from this.

During the first phase the pores dilate, the active ingredients can penetrate more intensively and more effectively. Due to the full-bloodedness effect, the skin receives more oxygen, that stimulates its metabolism and triggers the removal of waste products.



During the second phase of the treatment the pores contract as a result of the cooling down, thus the skin traps the introduced active ingredients. The decrease of the temperature reduces the activity of the enzymes as well, making metabolism to return to its original level, and by the cooling down the reddening of the skin ceases as well.

Special heating-cooling handpiece

The thermoderm® 2000 device treats the skin gently. If the handpiece touches the skin surface, the heat is conducted by the tissues, thus the temperature of the treating area alters. Careful dosing of the heating and cooling effect is ensured by the automatic adjustment of the temperature values programmed in the software of the instrument. The device controls continuously these fluctuations, and sets the intensity of heating or cooling from moment to moment according to it.

The cooling down of the skin surface - similar to the function of a fridge - causes formation of heat. Effective cooling and fast changing of temperature can be provoked only if the created heat is conducted away effectively. In the inside of the unique handpiece a tiny fan ensures perfect heat conduction: this costly but safety solution was chosen in order to make the skin-ironing and trap of active ingredients programs to function perfectly and that your hand wouldn't be subjected to direct heat effect during the treatment.



6 treatment programs

The programs controlled by the microprocessor choose always the optimal temperature and treatment time. The device makes warning sound signals at the end of cold-hot alterations, and when the current program is completed

■ HEAT

Skin-ironing treatment

Treatment program that helps the introduction of active ingredients, and has vasolidating effect.

■ HEAT SENSITIVE

Treatment program for sensitive skin

that helps the introduction of active ingredients, and has vasolidating effect.

■ ICE

Cold treatment

Treatment program that soothes the skin, contracts the pores and has refreshing effect.

■ ICE SENSITIVE

Cold treatment for sensitive skin

Treatment program for sensitive skin that soothes the skin, contracts the pores and has refreshing effect.

■ ICE / HEAT

Skin-ironing and trap of active ingredients

Two-phase program: by heating up stimulates the penetration of active ingredients and the metabolism, than in the cold phase contracts the pores and soothes the skin.

■ ICE / HEAT SENSITIVE

Skin-ironing and trap of active ingredients for sensitive skin

Two-phase program: by heating up stimulates the penetration of active ingredients and the metabolism, than in the cold phase contracts the pores and soothes the skin.

Technical details

Temperature of the heating: 36-44°C

Temperature of the cooling: 18-25°C

Treatment time:

1-2 treatment programs:

6 minutes, can be set between 2-30 minutes, in 2 minute steps

3-4 treatment programs:

2 minutes, can be set between 2-30 minutes, in 1 minute steps

5-6 treatment programs:

8 minutes, can be set between 4-30 minutes, in 4 minute steps

Dimensions: 230 x 200 x 85 mm

Weight: 2 kg

