



SM 390001
Service Manual
HICO-ULTRASONAT 810

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Manual-en.doc
Rev. 0-12/04

HICO-ULTRASONAT 810

SERVICE MANUAL

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1. General Notes and Process




The HICO-ULTRASONAT 810 is an ultrasonic nebulizer. The device is used in medical-technical applications to nebulize water to which inhalation medications have been added. This is a low-cost device.

Please consult the function and switching description before operating the device. The complete function incl. tests and calibration are explained in these sections.


1.1 Initial Startup / Calibration



A few items have to be considered during initial startup:

- 1.) The ultrasonic nebulizer may only be operated with programmed μ controller since the controller also assumes the task of limiting the output of the output transistor. The switching unit can be damaged without controller.
- 2.) The output transistor may never be operated without heat sink.
- 3.) The switching unit always has to be operated with a sufficiently filled water container that includes a mounted original transducer for these devices.
- 4.) This device is not equipped with a main or mains switch! As soon as the supply voltage is connected to the transformer, the μ controller starts as well and then may not be plugged in or unplugged. The μ controller also runs if the device was switched off using the keyboard! (Standby mode)
- 5.) The supply voltage for the initial startup has to be 230V +/- 10% and – 230V +/- 3% for the calibration.

Initial startup of the device consists of two steps. The first step is launched while the device is switched off. Press the "ventilation"-key  and at the same time additionally the "timer"-key  and the "start"-key .

Activation is only possible according to the key sequence described.

The first step consists of switching the ventilator on, using low capacity. The start-LED is lit. The (yellow) reset-LED flashes every 10 seconds. The key-lock-LED  indicates the status of the MAX-signal-comparator.

The error-lock-LED  indicates the status of the ERROR-comparator. Two of the "timer"-LEDs, "nebulizing"-LEDs, and "ventilation"-LEDs are shining. The intensity increases slowly to the max. value. The max. value is then adjusted as needed. If the start key  is pressed during the first step the device will switch off again without saving the settings.

However, if the "nebulizing"-key"  is pressed, the second step of the initial startup function is activated.