



# UKAL

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## Sirio - automatic humidifier for incubators



Maximum power 5 W

Average hourly consumption 1 Wh

Display For digital control of humidity parameters

Range Humidity can be adjusted from a min. of 40% to a max. of 75%

Sizes and weight 10.6 x 8.8 x 12.8 cm - 0,5 Kg

Supply voltage 12 Vdc (power supply unit included)

Electronic card Computerised hygrosat based on a microprocessor with a modified PID algorithm in conjunction with a humidity sensor with a precision of  $\pm 1\%$

Introduction: SIRIO, a unique, PATENTED humidifier, maintains a previously set level of humidity inside the incubator using natural evaporation, as in industrial incubators, with no similarity to the obsolete ultrasonic humidifiers now banned from industrial use. During incubation, embryos need natural sterile water vapour, not mist created by an ultrasonic frequency – a fact confirmed by genetic laboratories all over the world!

A stable relative humidity during the incubation process is one of the basic elements for ensuring a good hatching rate and the birth of healthy and lively chicks. This is the aim of the design and manufacture of the SIRIO automatic humidifier, a device that allows water to be introduced into the humidifier totally automatically, with no input from the operator.

With SIRIO, the desired humidity level is set using buttons on an intuitive LCD display. SIRIO then pumps water into the incubator (from a bottle prepared by the user) to achieve and maintain the right humidity level, regardless of environmental humidity changes, thus optimising the hatching rate of the incubated eggs.

SIRIO consists of a dual-tube peristaltic pump controlled by a computerised hygrosat with a modified PID algorithm. This receives information from a latest-generation humidity sensor (Sensirion Swiss technology) with a precision of  $\pm 1\%$  (the most accurate in its class), which measures the humidity in the incubator throughout the entire incubation cycle with extreme precision. Once the microprocessor has obtained the information from the sensor, it activates the peristaltic pump to supply small drops of water, which evaporate to allow control of the humidity. As it approaches the set value, the microprocessor slows down the flow of water from the pump until the value is reached. This PATENTED intelligent system keeps the humidity level stable with absolute precision.

During operation, SIRIO displays the actual humidity value inside the incubator and the value previously set by the user.

Once the SIRIO automatic humidifier is combined with the incubator and the electrical connection and water supply are assured, you can “forget” about everything until hatching!

