

Alhena

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Infant Warmers





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A basic requirement for therapy and treatment of newborns, and in particular Low Birth Weight newborns, is to have a temperature controlled environment available. To reach this goal there are currently many methods which require the use of various types of apparatus, among which the most common, other than an incubator, are Infant Warmers, that is to say, *open therapeutic systems* with radiant infrared heating.

These are most often used in the delivery room and in intensive therapy. In reality this system, which permits fast easy access to the newborn is the most used and efficient method for maintaining both the baby's body and the bed at the ideal temperature.

The *infrared ray heating system* makes it possible to minimize heat dispersion, thus ensuring the maximum comfort for the baby and stabilizing the baby's surrounding micro-climate environment.

If you add to that its quietness, one can deduce that these apparatus are the most adapted and safe for the little patient's optimum health.

The Alhena series of Infant Warmers are considered the best for personnel "adept at work" because they permit a more direct control of the temperature, observation and also *free access to the baby* and to carry out in the most efficient way possible reanimation, *oxygen therapy*, and the execution of medical procedures which call for more than one person to be working at the same time.

The Alhena plus created by Ginevri, respecting the current safety standards, which it fully satisfies all those requirements, supplies other services which make it a true and complete newborn therapy centre, which optimizes and facilitates for medical personnel and nurses the various procedures necessary for treatment of the newborn.

Amongst the most important design characteristics and functions of the Alhena plus there are characteristics unique with respect to other models available on the market, the presence of a *Phototherapy system* created with the technical innovation of *6 Blue Power LED's* (with wavelength centred around 455nm) which make an efficient treatment of jaundiced newborns possible, being 5 or 6 times more powerful than those devices equipped with traditional fluorescent lamps. The *illumination* is also provided using *4 white Daylight LED's* which make it possible to observe the baby without any altering the baby's natural colour.

An advanced *electronic control panel* permits simultaneous access to all the functions using simply to understand procedures thus insuring the maximum ease of use.

Below are listed the different modes available for use:





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Automatic Mode: the heating level is controlled by a micro-processor which makes continuous use of constant monitoring of the patient's temperature to create and maintain the temperature level set by the medical personnel.

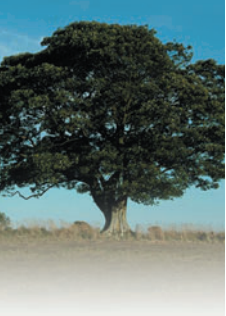
Manual Mode: the heating level is directly set by the operator

Pre-Heating Mode: the heating level is automatically set at 30% of the maximum heating and the alarms are silenced at the right time. Monitoring of the patient's temperature makes use of a "skin" temperature sensor dedicated to reading the peripheral temperature. This sensor can be particularly useful also in the case of twins being born.

The baby's abdominal and peripheral temperatures as with the temperature set (in Automatic Mode) or the heating percentage set (in Manual Mode) are displayed on the dedicated digital display. A complete set of alarms give the maximum safety of operation: the devices are supplied with both visual and acoustic alarms for HI and LOW Skin Temperature, Malfunction and/or Disconnection of the skin sensor probe and Power Loss. The Apgar module permits monitoring of the Apgar index by means of a digital timer and an acoustic signal at intervals of 1, 3, and 5 minutes from activation. The Aquagel thermal mattress (optional), which is X-ray permeable and which evenly and comfortably distributes warmth to the newborn, is directly connected to the Infant Warmer's control panel and is servo-controlled by the operating system itself.

The strict and exact control of the heat generated guarantees the absence of high contact temperatures. The *manouverability of the patient bed*, adjustable in a 360° arc using a round tilting system and equipped with sidewalls individually capable of being folded down and also removable confirm the distinctive characteristics of the Ginevri neonatal therapy centres. On request, the apparatus' height can be electronically adjusted using a footpedal control (optional). This adjustment does not change the distance between the bed and the overhead fixture (80cm), and so keeps the heating intensity and the phototherapy irradiation constant. In addition there is also a version available without phototherapy: the **Infant Warmer Alhena**.





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Power LED Technology

The new series of Ginevri machines for the treatment of phototherapy has been equipped with the new Power LED technology, the newest frontier in the field of treatment of hyper-bilirubin in newborns.

The treatment calls for the exposure of the patient's skin to a source which emits light energy in the *therapeutic band* with the wavelengths between 420 - 480nm. The characteristics which make the Power LED technology the best for this application is due not only to the fact that the energy emitted only comes from the specific beneficial wavelength band centred around 455nm, but also to the fact that the Power LEDs are *highly directional*. This makes it possible to only irradiate the treatment area, and to avoid problems for the operators or other patients near the lamp as well as to increase the little patient's comfort and to get the maximum results from the therapy.

The new Power LED technology is an evolution of the existing fluorescent tube technology. The *radiometric power* has been demonstrated to be 20 times greater with respect to the old technology when comparing the power used because the consumption of only one fluorescent tube is equal to the consumption of 6 Power LEDs. The result is an enormous

improvement in the apparatus' efficiency which translated into a real increase in the overall power of approximately *4 times* that of the technology of the old generation. This means a significant reduction in the exposure time necessary for phototherapy to obtain the same efficiency of treatment with the consequent benefits which this brings for both the patient and the medical personnel.

Another advantage of the innovative Power LED technology regards the useful *life of lamps* and their reliability. LEDs have by nature a very long working life and very low downgrading of the emitted power. Two comparison numbers to quantify this aspect are: after approx. 2,000 hours of use the percentage reduction in emitted power of the

fluorescent lamps has been shown to be around 25%, that of the LED is approximately 8%. The most

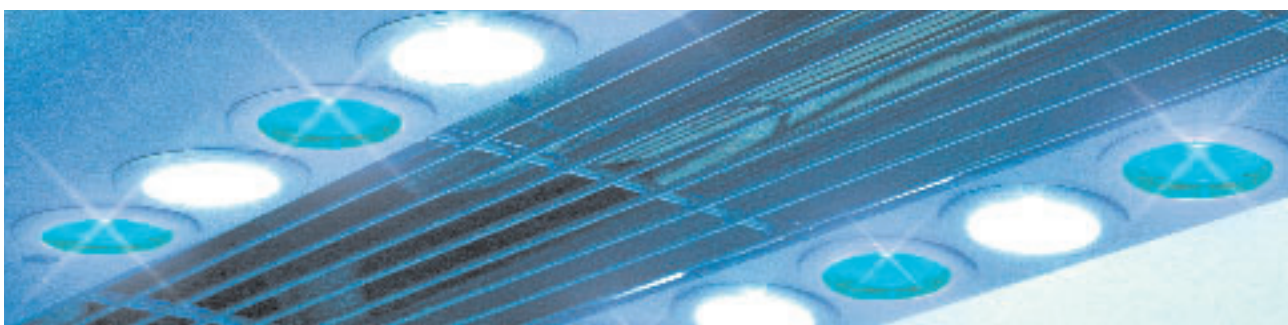
immediate result of this characteristic is the useful life of the lamp which goes from 2,000 hours for a fluorescent tube to *5,000 hours for the*

LEDs and thus reduces by one third the service callouts and the accompanying cost.

The following table summarizes the LED's technical data and unequivocally demonstrates the clear superiority of the new LED technology which is destined to supersede the fluorescent tube and make it outdated.



MODEL	Lamp with 6 power LEDs	Lamp with 4 Fluorescent tubes
Radiometric Power (at 80 cm from source, $\mu\text{W}/\text{cm}^2$)	1500	280
Irradiance between 420 e 480 nm (at 80 cm from source, $\mu\text{W}/\text{cm}^2/\text{nm}$)	30	5.5
Power consumption (W) (Watts)	22	80
Mean life (hours)	5000	2000
Directivity (Illumination angle)	30°	180°





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Accessories

Distribution Air/O₂ Console

Alhena can be equipped with a multifunctional console for re-animation, oxygen therapy, or suction. The DISTRIBUTION AIR/O₂ CONSOLE (optional P/N 11055A70) allows connection of optional modules and is provided with:

- two separate inlets for air and oxygen;
- two oxygen outlets;
- two air outlets.

Air and oxygen can be provided either by cylinders or the hospital distribution system.

The Venturi suction unit and the oxygen therapy assembly can be connected to the console. The OXYGEN THERAPY ASSEMBLY (optional P/N 7737) is made up of a flow meter and a humidification bottle. The VENTURI SUCTION UNIT (optional P/N 7623) performs suction activated by the oxygen or air flow provided by cylinders or other sources. The vacuum level can be adjusted by using the related knob and read on the Vacuum-meter. The suction unit can be easily disassembled and sterilized.



Oxygen therapy assembly (P/N 7737)



Venturi suction unit (P/N 7623)



Distribution Air/O₂ console (P/N 11055A70)

Baby Start

The BABY START RESUSCITATOR (optional P/N 7283) can be connected to the oxygen flow meter, the air flow meter, or both of them, through a Y connector. The gas blend can be humidified and heated. Easy to use, it allows simple and safe resuscitation of distressed newborns in the delivery room and can also be used in critical emergency cases. Re-animation is performed by providing positive pressure through the mask or the endotracheal tube with manual control and free expiration. The PEEP and PIP pressures are adjustable and clearly displayed on the manometer. A safety valve is activated when inspiration pressure is higher than the set value, thus avoiding dangers to the patient.



Baby Start (P/N 7283)

Other devices

Manual resuscitator (P/N 781)



Thermo Pad servo controlled mattress 64X36 cm (P/N 7640)
Tray 64X36 cm (P/N 10363A72)



Baby bundle 100x8 cm (P/N 10828A70)
Baby bundle 80x5 cm (P/N 10829A70)



Pivoting shelf 20X20 cm distance cm 9 (P/N 5740)
Pivoting shelf 20X20 cm distance cm 18 (P/N 5740B70)
Pivoting shelf 21X25 cm distance cm 9 (P/N 10848A70)



Baby head immobiliser (P/N 7647)



Drawers set (P/N 7628)



Electronic scale "Billa" (P/N 8040)



Cylinder support kit Lt.3 (P/N 11849B70)
Cylinder support kit Lt.5 (P/N 11849A70)
O₂ cylinder Lt. 3 (P/N 7753)
Air cylinder Lt. 3 (P/N 7436)
O₂ cylinder Lt.5 (P/N 3300)
Air cylinder Lt.5 (P/N 7630)



Aquagel mattress 64X36 cm (P/N 7715)
Tray 64X36 cm (P/N 10363A72)



I.V. pole (P/N 12036A70)



Sliding out X-ray plate (P/N 1693B70)



Radiometer RM400 (P/N 1749)



Consumables



Phototherapy masks 50 pcs (P/N 1645)



Gel reflectors - 38mm - 24 Pcs (P/N 565)
Gel reflectors - 26mm - 24 Pcs (P/N 11814A73)



Skin probe Blue - 6 Pcs (P/N 11730A73)
Peripheric Skin probe Yellow - 6 Pcs (P/N 11730G73)



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Technical details



Blue Power Led



Daylight Led



Halogen Lamps



Heating element



MODEL

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Alhena Plus

CE Mark (Medical Device)	Yes	Yes
Type	Infant Warmer	Infant Warmer
Heating	Quartz heating tube 1 x 450W	Quartz heating tube 1 x 450W
Temperature Controls	Automatic, Manual, Pre-heating	Automatic, Manual, Pre-heating
Set Temperature Indicator, °C	Digital, 23-38	Digital, 23-38
Indicator of Temperature taken from the patient, °C	Digital, 18-45	Digital, 18-45
Type of Phototherapy	-	Power Led
Radiation for bilirubin from 420 to 480 nm, $\mu\text{W}/\text{cm}^2/\text{nm}$ at 80cm	-	30
Phototherapy Lamp	NO	6 Blue Power Led
Power LED use lifetime (hours)	-	5000
Therapy Time Counter	YES (electronic)	YES (electronic)
Area of Phototherapy illumination, cm^2 (in^2) at 80cm	70x40 (27x16)	70x40 (27x16)
Illumination Lamp	4 Halogen lamps, each 20W	4 Daylight White LEDs
Cooling Fan	YES	YES
Electronic Control Panel	YES	YES
Overhead Fixture, L x W, cm (in)	80 x 28 x 11 (31.5 x 11 x 4,3)	80 x 28 x 11 (31.5 x 11 x 4,3)
Height from the ground of the Overhead Fixture cm (in)	182-202 (71-80)	182-202 (71-80)
Footprint, m^2 (ft^2)	0.4 (4.3)	0.4 (4.3)
Wheel Diameter, cm (in)	10 (3.9) with brakes	10 (3.9) with brakes
Bed Dimensions, cm (in)	70x48 (27x19)	70x48 (27x19)
Heat Controlled Mattress	Optional	Optional
Bed height from the ground, cm	80 cm	80 cm
Bed Inclination	15° on 360°	15° on 360°
Height of folding side walls, cm	15 cm	15 cm
Weight, kg (lb)	60 (132)	60 (132)
Alarms	Acoustic and visual	Acoustic and visual
Power Supply	230 V 50 Hz	230 V 50 Hz
Power Consumption	850W	850W





Since 1954 Ginevri is a leading designer, manufacturer and world-wide distributor of electromedical equipment for neonatal and pediatric care. Ginevri's policy has always been to promote the best quality, safety, user friendliness and easy maintenance of its products for the full satisfaction of its customers: public and private hospitals.

Quality System

ISO 9001:2000
ISO 13485:2003

The specifications in this catalogue are indicative. Ginevri, the company, reserves the right to make changes, without further notice, to the products described within this catalogue in order to improve reliability, function or design.

GINEVRI

Quality for life

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