

Warming Unit, Radiant, Infant

UMDNS

17956 Warming Units, Patient, Radiant, Infant
17433 Warming Units, Patient, Radiant, Infant, Mobile
12113 Incubators, Infant

GMDN

36812 Infant/regional-body warmer
17433 Infant warmer

Other common names:

Beds, Infant; Combination Incubator/Warmers; Infant Warmers; Mobile Warmers; Transport Warmers; Transport Radiant Warmers; Warmers, Infant, Radiant, Stationary

Health problem addressed _____

These devices are commonly used to provide thermal support for newborns in the delivery suite, for critically ill infants who require constant nursing intervention, and for infants undergoing treatment that prolongs exposure to a cool environment. Prolonged cold stress can overwork heat-producing mechanisms, drain energy reserves, and result in hypoxia, acidosis, hypoglycemia, and, in severe cases, death.

Product description _____

Infant radiant warmers are overhead heating units. They typically consist of a heat source, a skin-temperature sensor, an automatic (servo) control unit, and visual and audible alarms.

Principles of operation _____

A heating element generates a significant amount of radiant energy in the far IR wavelength region (longer than three microns to avoid damaging the infant's retina and cornea). The radiant output of the heating unit is also limited to prevent thermal damage to the infant. The IR energy is readily absorbed by the infant's skin; increased blood flow in the skin then transfers heat to the rest of the body by blood convection (heat exchange between the blood and tissue surfaces) and tissue conduction (heat transfer between adjacent tissue surfaces).

Operating steps _____

After birth, infants are placed under a radiant warmer until they can achieve thermoregulation.

Reported problems _____

Because warming by IR energy is an efficient means of energy transfer, extreme hyperthermia, skin burns, permanent brain damage, or even death can result.



Use and maintenance _____

User(s): Nursing staff; physicians

Maintenance: Medical staff; technician; biomedical or clinical engineer

Training: Initial training by manufacturer and manuals

Environment of use _____

Settings of use: Hospital; birthing center

Requirements: Stable power source

Product specifications _____

Approx. dimensions (mm): 2100x1310x750

Approx. weight (kg): 110

Consumables: NA

Price range (USD): 3,250 - 26,000

Typical product life time (years): 8

Shelf life (consumables): NA

Types and variations _____

Freestanding; modular; permanently-mounted

