

Nyano Nani न्यानो नानी



User Manual

Version 2.1

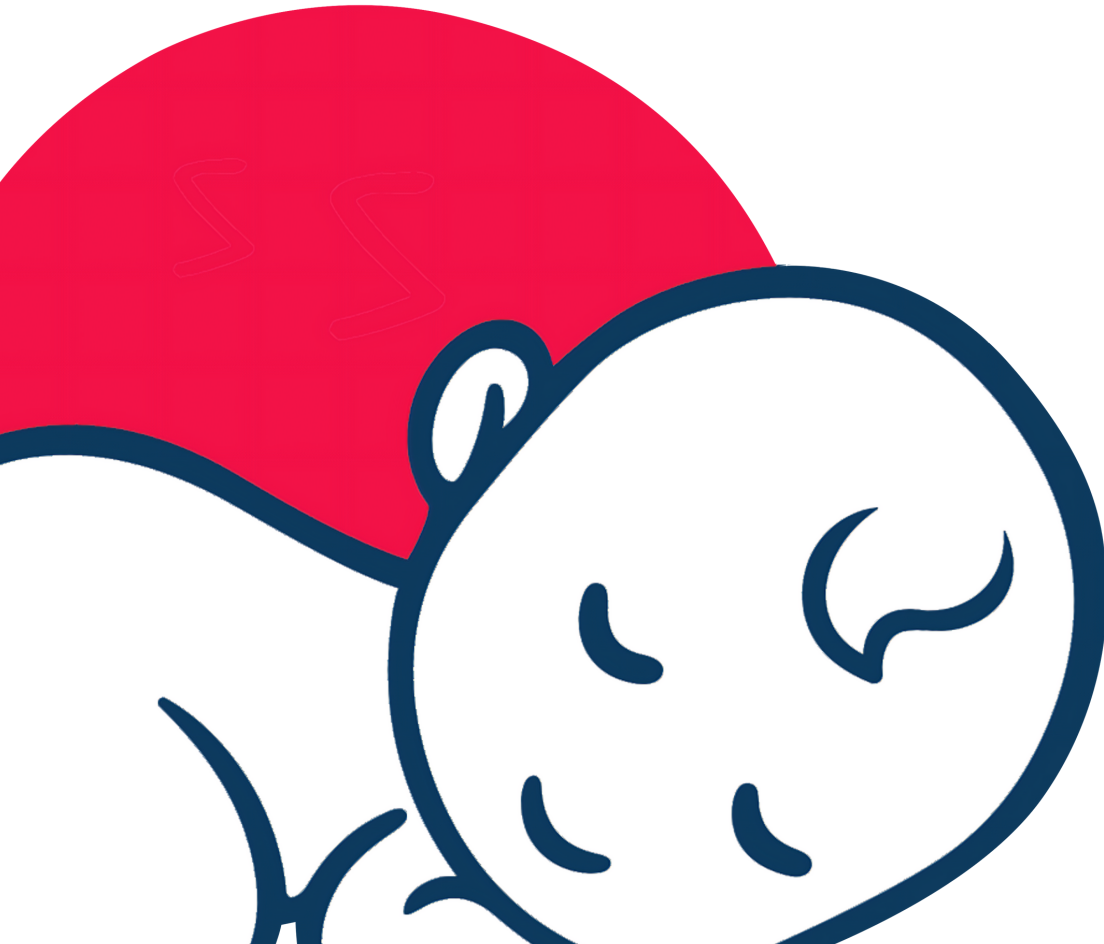


Table of Contents



Safety Guidelines	1
Technical Specifications	5
Theory of Operation	6
Operation Instructions	7
Warning, Operation & Troubleshooting	10
Preventive Maintenance	13



The user should carefully read these safety and usage instructions before the use of the device.

This device is not suggested to be used in any areas where combustible and explosive gas mixtures are present.

Electrical connections to equipment which is not listed in these instructions for use should only be made following consultation with the respective manufacturers.

WARNING

Disclaimer



The design of the equipment, the accompanying literature, and the labeling on the equipment take into consideration that the purchase and use of the equipment are restricted to trained professionals, and that certain inherent characteristics of the equipment are known to the trained operator.

This publication excludes references to various hazards which are obvious to a medical professional and operator of this equipment, to the consequences of product misuse, and to potentially adverse effects in patients with abnormal conditions.

Maintenance



The device must be inspected and serviced regularly by trained and authorized personnel every 4 months. Any necessary repair and replacement of spare parts should be done by authorized personnel only. Failure to do so may compromise the correct functioning of the device.

Caution



It is the responsibility of the appropriate clinical decision-maker to draw conclusions from the skin temperature measurements taken.

Accessories



Do not use any spare accessories other than those provided by authorized service personnel. Product modification or misuse can be dangerous.

Safety Instructions



- It is advisable to not leave an INFANT unattended under the INFANT WARMER.
- Radiant warming increases insensible water loss. Appropriate measures to maintain proper fluid balance should be considered.
- Permissible distance between the radiant heater and the bottom of the bassinet is 75cm. No changes to this distance should be made by any means since a larger distance between the two points may cause insufficient heat on the INFANT and a reduced distance may result in excessive heating.



Safety Instructions (Contd...)



- The skin temperature sensing probe should be in direct contact with the skin to provide accurate monitoring of the infant's skin temperature. Failure to maintain direct skin contact can result in overheating and possible burning. Check the INFANT's condition at least every 15 minutes for correct Sensor attachment, reddened skin areas, and proper skin temperature.

Note: Rectal temperatures are not appropriate for controlling the heater output.

- Do not leave the infant unattended in the Cart/Bassinet when the side panels on the front panel are folded down.
- Inspect the side panels of the bassinet to prevent INFANT falling out.
- The bassinet withstands a maximum of 20 kg load. It is recommended to operate the INFANT warmer with 50% of the maximum load at all times.
- External heated mattress, use of phototherapy or sunlight can cause an increase in the temperature of INFANT abruptly.
- The INFANT WARMER should be positioned on its central axis and the bassinet should not be tilted to horizontal or vertical sides. This may affect the performance of the INFANT WARMER.
- INFANT WARMER is not suitable for use in presence of flammable anesthetic gases or other flammable materials, such as some cleaning fluids.
- Environmental conditions like AIR movement, Humidity can affect the thermal (temperature) balance of the INFANT and may take some time to be stable.
- The INFANT WARMER shall be used only by appropriately trained health personnel and under the direction of qualified medical personnel who are familiar with currently known RISKS and BENEFITS of warmer use.

Definitions



WARNING: A WARNING statement contains important information about a potentially hazardous condition which can result in death or a serious injury to the patient if not avoided.

CAUTION: A CAUTION statement contains important information about a potentially hazardous condition which can result in a minor or even severe injury to the patient if not avoided.

DEVICE: An infant radiant warmer with the name “Nyano Nani” designed and developed completely in Nepal.

NIC: National Innovation Center, Nepal. The manufacturer for this DEVICE.

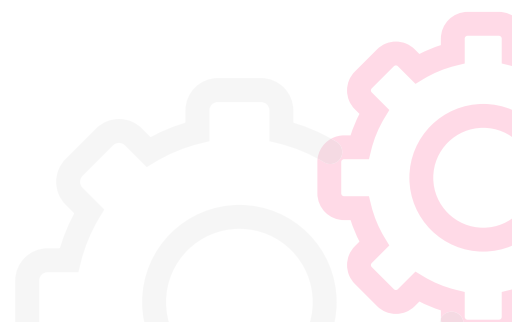
LIMITATION OF LIABILITY

ALTHOUGH THE DEVICE HAS BEEN DESIGNED AND TESTED WITH UTMOST PRIORITY GIVEN TO THE SAFETY OF THE PATIENT AND TO MINIMIZE ANY HAZARDS, THE MANUFACTURERS (NIC) OR THE FUTURE COMPANY ASSOCIATED WITH THE DEVICE, IN NO EVENT SHALL BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES TO THE PATIENT AND/OR THE DEVICE WHATSOEVER RESULTING FROM ANY (I) USE OF THE DEVICE, (II) FAILURE TO FOLLOW THE SAFETY AND USAGE INSTRUCTIONS, (III) INTERNAL ACCESS, MODIFICATION OR TAMPERING TO THE DEVICE, (IV) ERROR AND ANY INACCURACIES ON THE CONTENT PROVIDED BY THE MANUFACTURERS INCLUSIVE BUT NOT LIMITED TO THIS DOCUMENT.

Technical Specifications

• • •

Power Requirements	220-240V AC System 50 Hz 700 Watt.
Overload Protection	5A Circuit Breaker
Examination Light	3 Watt. LED
Heater	Elstein Ceramic 650 Watt.
Sensors	Skin & Air PT100
Coating	MS Powder Coating
Reflectors	Parabolic Steel Reflectors
Temperature Controller	Auto-PID
Bassinet	Acrylic Bed Adjustable Side Panels
Electrical Safety	Earthing with Insulated Body



Theory of Operation

...

The radiant heat is directed by parabolic reflector onto the infant. The warmer is controlled by a single heater driver with automatic skin temperature control.

Examination (Observation) light in the warmer module provides added illumination of mattress area.



Operation Instructions



1

Place the baby warmer on a levelled surface and make sure the wheels are locked.



2

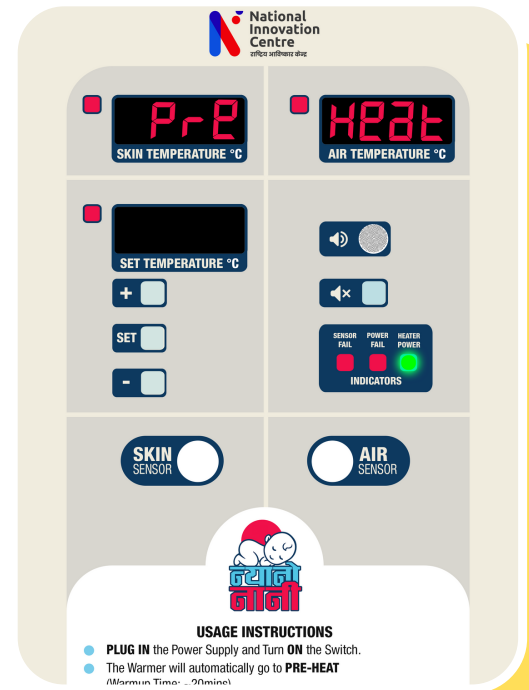
Plug In the power supply to the wall and Turn On the switch on the side of the device.



3

Warmer will automatically go into **Pre-Heat** state, as indicated by the display.

Warming Time: ~20 mins.



4

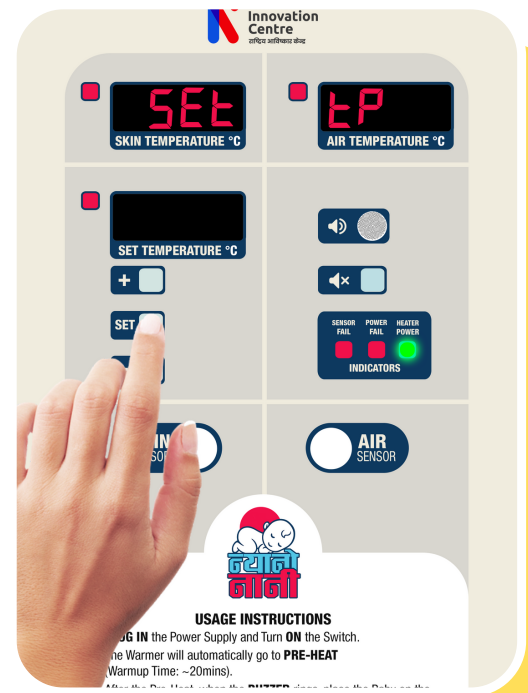
Place the baby in the **Bassinet** after the **Buzzer** and attach the **Skin Sensor** on a preferred location.



5

Press **SET** to program desired temperature and use the **+** and **-** buttons to adjust **SET TEMPERATURE**.

Press **SET** again to exit.



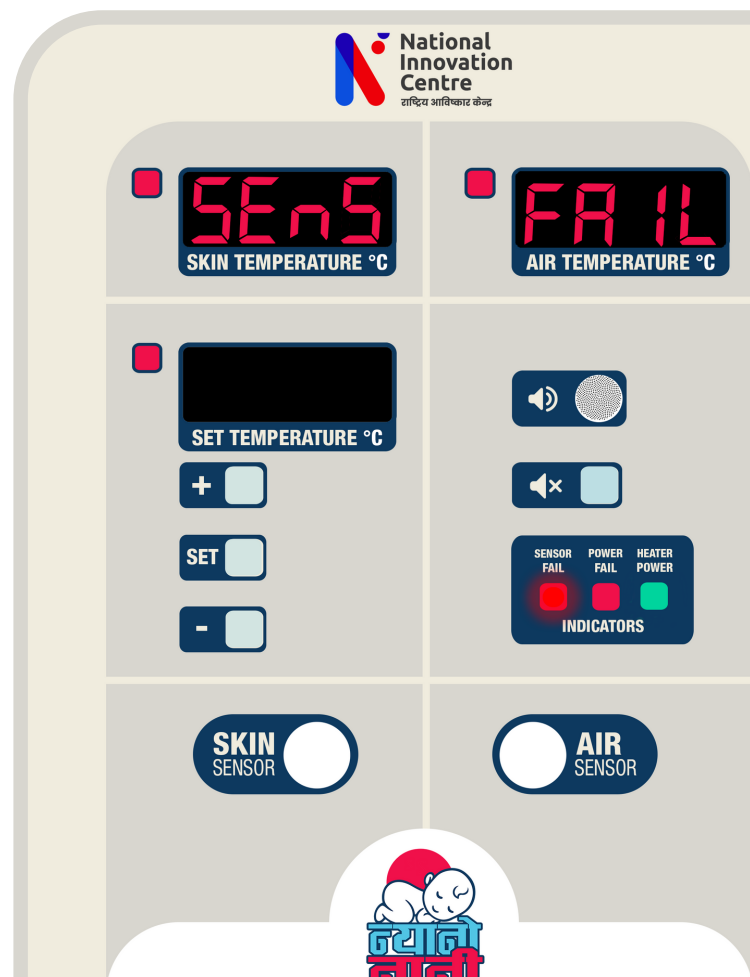
Warnings, Alarms & Troubleshooting

...

Note: The sensors are attached to the front panel with fasteners, please ensure that the connector is tightly secured.

Sensor Fail

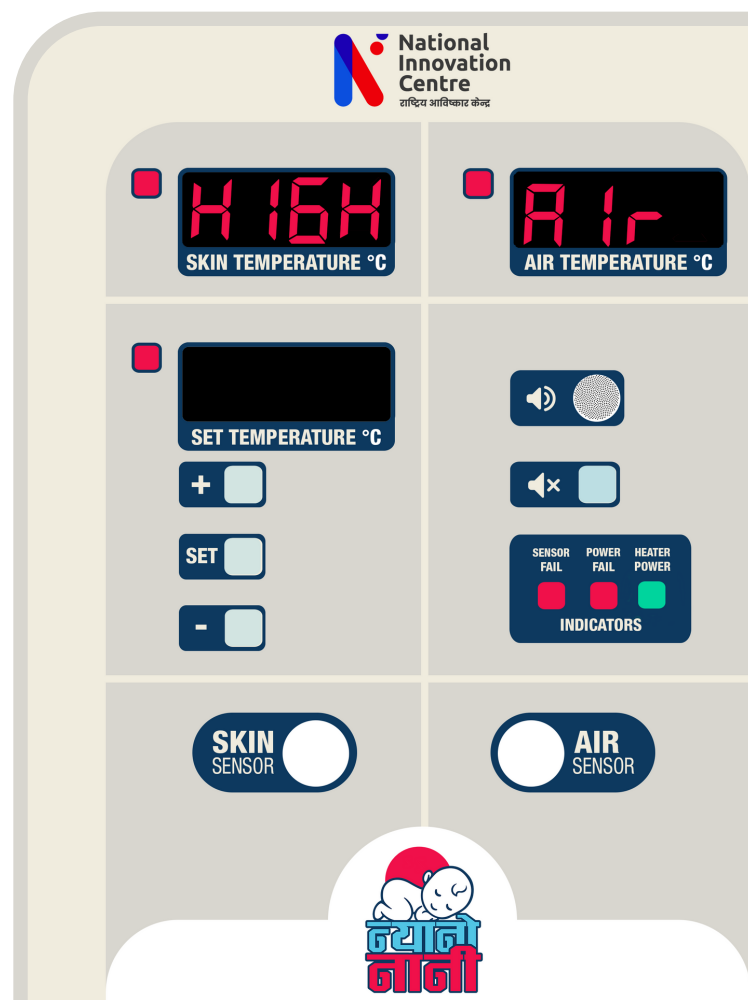
Cause	Temperature sensors are unplugged
Indication	Display shows the SEnS FAIL message with continuous buzzer.
Measures	Check if the sensor connectors are loose. After they are adjusted, the system will resume its operation.

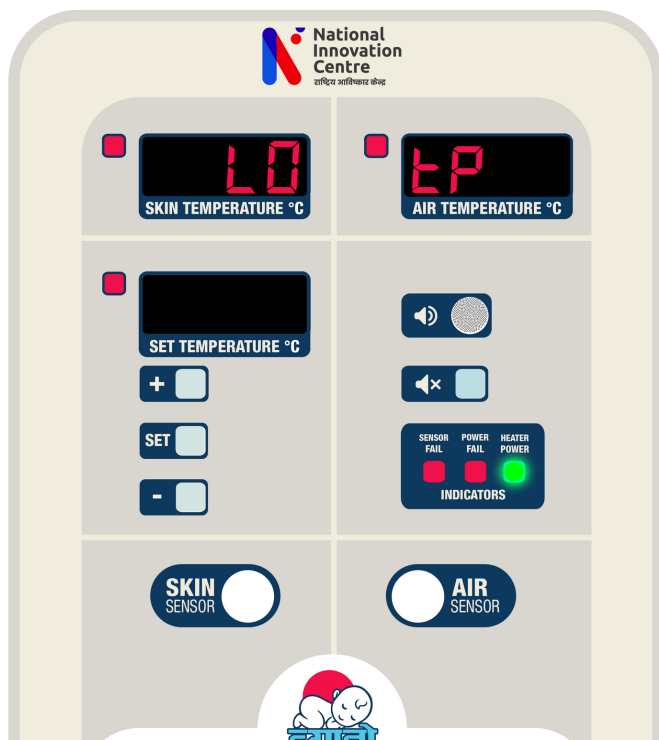


Note: Air temperature sensor must be placed on the bassinet in open air, free from obstructions, facing upwards. Please make sure that the metallic face of the sensor is not covered by the blanket or has not come into contact with the metal & acrylic frame of the bassinet.

High Air Temperature

Cause	Air temperature is higher than 38.5°C .
Indication	Display shows the HIGH Air message with continuous buzzer.
Measures	Make sure the air sensor is not attached to the baby. Heater power indicator should be OFF .





Low Skin Temperature

Cause Skin temperature is lower than set point.

Indication Display shows the **LO tP** message with continuous buzzer.

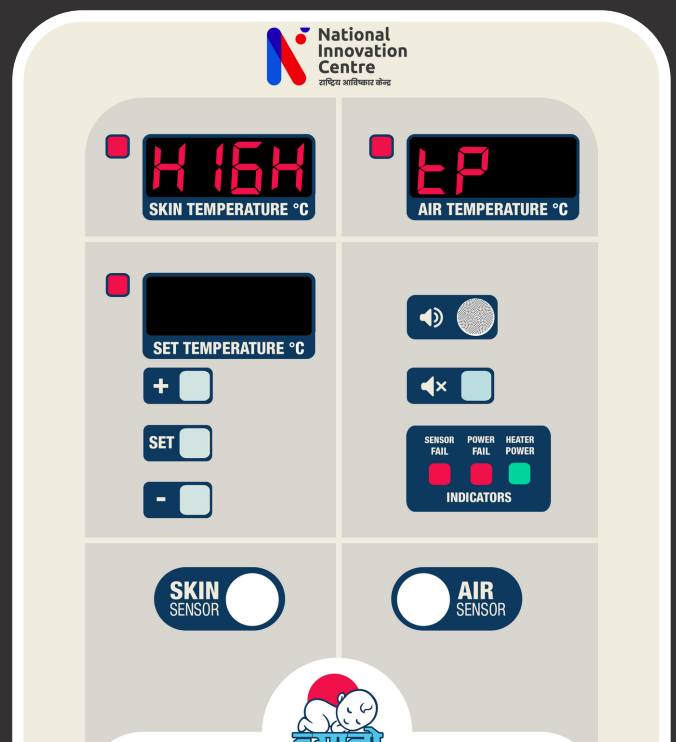
Measures Check for the heater indicator, it should be **ON**.

High Skin Temperature

Cause Skin temperature is higher than set point.

Indication Display shows the **HIGH tP** message with continuous buzzer.

Measures Check for the heater indicator, it should be OFF.



Preventive Maintenance



✓ Cleaning the Equipment

The equipment must be thoroughly cleaned and disinfected **once every week** and **every time the infant is removed from the bassinet**.

Before and after each use, clean the **sensor tip** with **alcohol swab**.

✓ Sensor Maintenance

Ensure the sensors are **properly fastened** in the **sensor slots**.

Do not **twist or jerk** the sensor wires.

✓ Heater Maintenance

Remove the heater hood from the top section and **check the heater wires routinely**.

Preferably **every two months**.





Scan this code to visit the
Baby Warmer Page



Note: The product satisfies all the guidelines provided by IEC 6061-2-21 to ensure maximum safety to the child.

**Designed & Developed @ National
Innovation Center Nepal**



TU, RECAST Road, Kirtipur



9843171278, 9810307452



**National
Innovation
Centre**

राष्ट्रिय आविष्कार केन्द्र



राष्ट्रिय
आविष्कार
केन्द्र

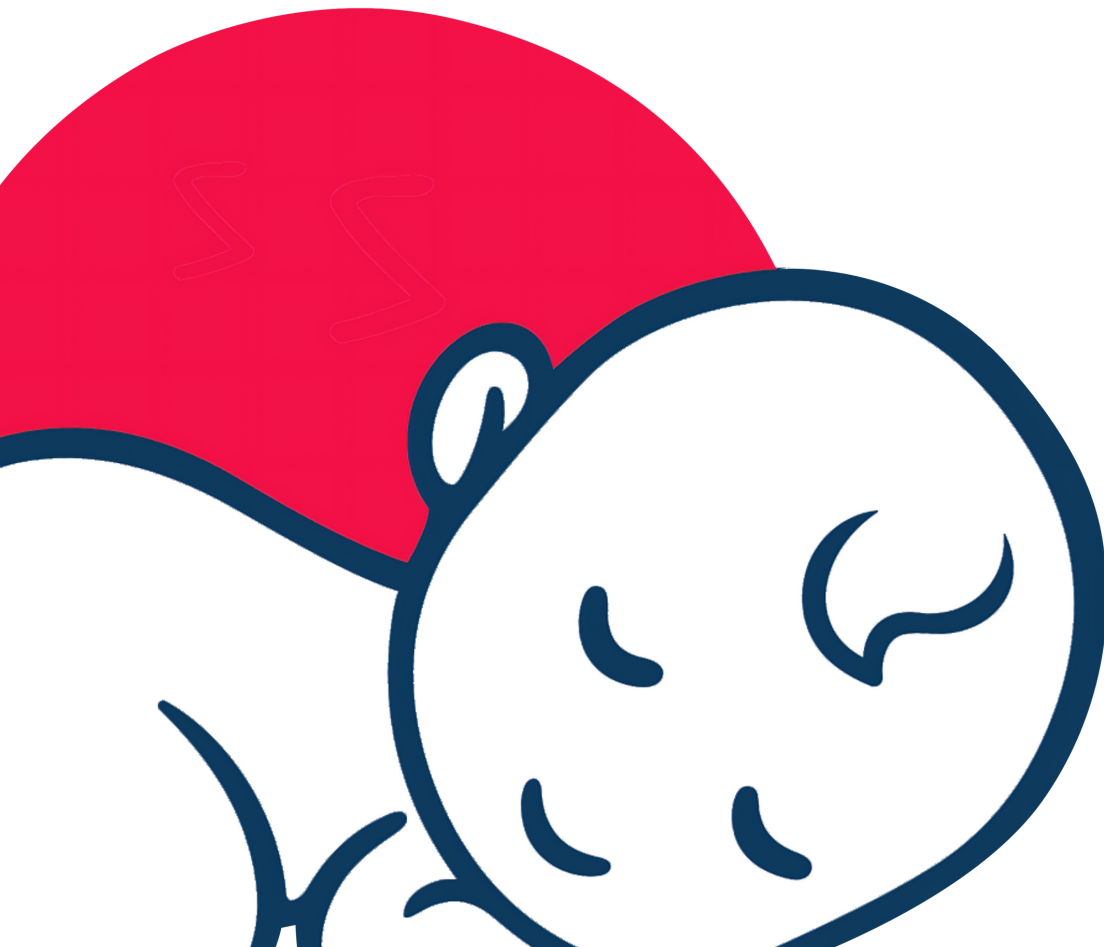
National Innovation Centre

न्यानो नानी Nyano Nani



प्रयोग निर्देशिका

भर्सन २.१



मंसिर, २०७७

विषय-सूची



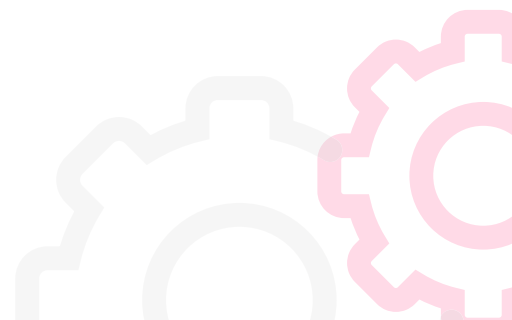
प्राविधिक विशिष्टता	१
संचालन सिद्धान्त	२
संचालन निर्देशनहरू	३
चेतावनी, संचालन तथा समस्या निवारण	६
रोकथाम मर्मत	९



प्राविधिक विशिष्टता



शक्ति आवश्यकताहरू	२०० - २४० भोल्ट ए.सी. प्रणाली ५० हर्ज ७०० वाट
अधिभार संरक्षण	५ एम्प सर्किट ब्रेकर
जांचको लागि प्रयोग प्रकाश	३ वाट लिड
हीटर	एल्स्टाइन सिरेमिक ६५० वाट
सेन्सर	छाला र हावा पी.टि १००
आवरण	एम.एस. पाउडर कोटिंग
परावर्तक	प्याराबोलिक इस्पात परावर्तक
तापक्रम नियन्त्रक	अटो-पी.आइ.डी
ब्यसिनेट	एक्रिलिक पलड् समायोज्य साइड प्यानल
इलेक्ट्रिकल संरक्षण	अर्थिगसंग पृथक शरीर



संचालन सिद्धान्त

...

न्यानो नानीले नवजात शिशुकालागि आवश्यक पर्ने न्यानोपन प्याराबोलिक परावर्तकद्वारा प्रधान गर्छ। न्यानो नानी स्वचालित छाला तापक्रम नियन्त्रण सहितको एक हीटर ड्राइभरद्वारा सन्चालित गरिएको छ। यस उपकरणमा जडित जाँच (परीक्षाण) प्रकाशले डसनामा थप न्यानोपन प्रदान गर्दछ।



संचालन निर्देशनहरू

...

१

न्यानो नानीलाई समतल सतहमा राख्नुहोस् र यसमा जडित चक्काहरू लक छन् कि छैनन् निश्चित गर्नुहोस्।



२

मेशिनलाई एक निर्बाध उर्जा स्रोतसँग जोड्नुहोस् र यसको साइडमा रहेको स्विचलाई अन गर्नुहोस् ।

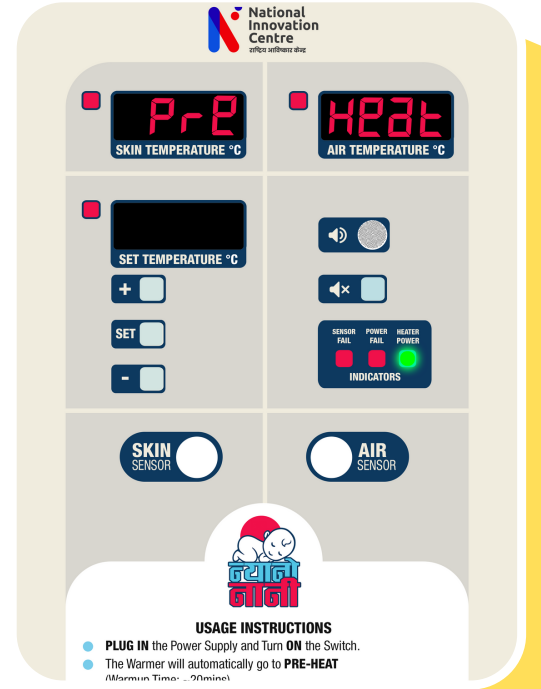


राष्ट्रिय
आविष्कार
केन्द्र
National Innovation Centre



३

न्यानो नानी स्वतः तस्विरमा देखाए अनुसार प्रि-हीट चरणमा पुग्नेछ।
तातिन लाग्ने समय: २० मिनेट



४

बजर बजेपछि शिशुलाई
ब्यसिनेटमा राख्नुहोस् र छाला
सेन्सरलाई आवश्यक स्थानमा
जोड्नुहोस्।





उपकरणमा रहेको "SET" बटन थिचि इच्छित तापक्रम सेट गर्नुहोस्।
 "+" र "-" बटनको प्रयोग गरि आवश्यकता अनुसार तापक्रम सेट गर्नसकिनेछ।
 मेनूबाट बाहिर निस्कनका लागि "SET" बटन पूर्ण थिच्नुहोस्।



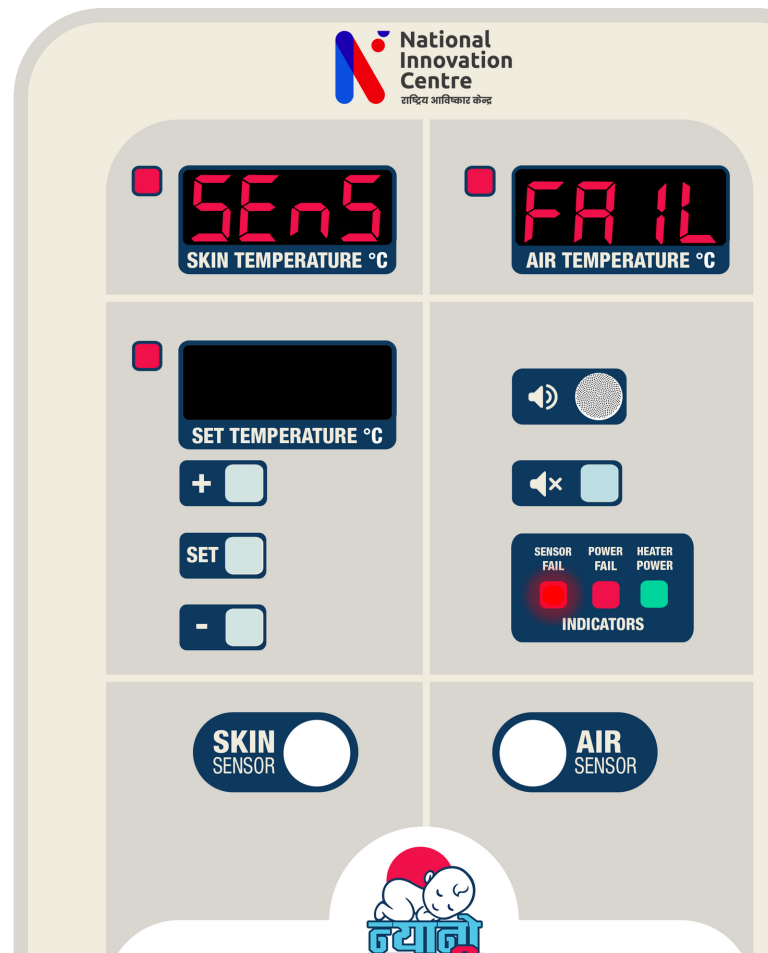
चेतावनी, संचालन तथा समस्या निवारण

...

नोट: सेन्सरहरू अगाडि रहेको प्यानलमा फास्टनरसंग जोडिएको हुन्छ, कृपया कनेक्टर सही र सुरक्षित रूपमा जडित छ वा छैन सुनिश्चित गर्नुहोस्।

सेन्सर फेलियर

कारण	तापमान सेन्सरहरू अनप्लग भएमा।
संकेत	लगातार बजरको साथ डिस्प्लेमा SEnS FAIL सन्देश देखिनेछ।
उपायहरू	सेन्सर कनेक्टरहरू खुकुलो छ कि छैन जाँच गर्नुहोस्। कनेक्टरहरू मिलाउनु भए पछि सिस्टम अपरेसन फेरि सुरु हुनेछ।

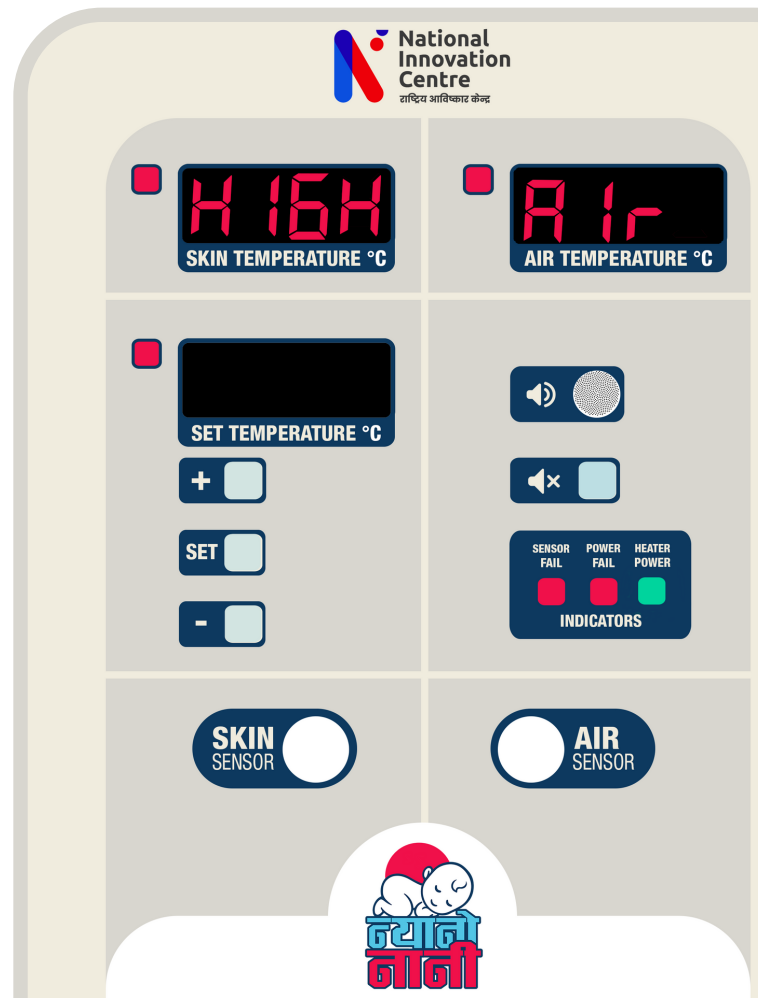


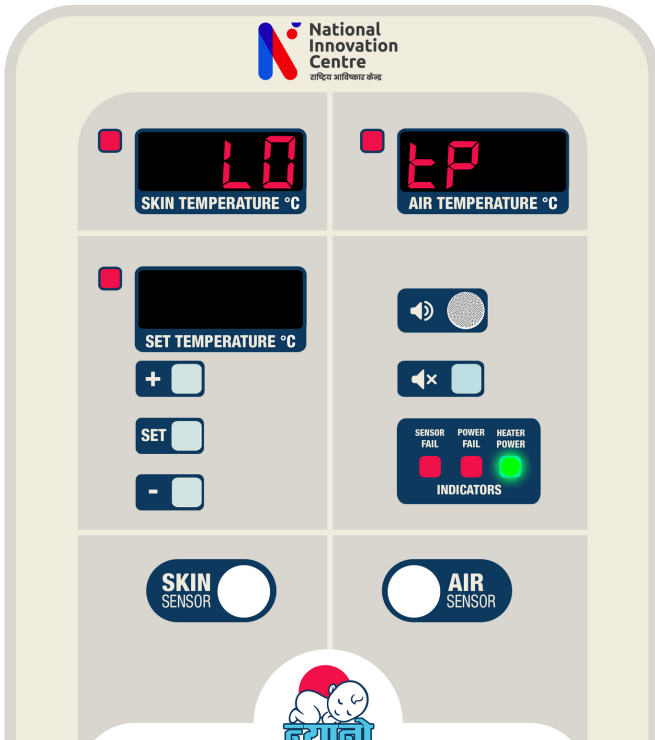
नोट: वायु तापक्रम सेन्सरलाई हावा आवतजावत हुने तथा सो प्रक्रिया कुनै अवरोध नहुने हिसाबले माथि फर्काएर ब्यसिनेटमा राख्नुपर्दछ।

सेन्सरको मेटालिक फेस कम्बलले ढाकिएको छ वा छैन तथा ब्यसिनेटको मेटालिक र एक्रिलिक फ्रेमसँग सम्पर्कमा आएको छ वा छैन सुनिश्चित गर्नुहोस्।

उच्च वायु तापक्रम

कारण	वायु तापमान 38.5°C डिग्री सेल्सियस भन्दा बढि भएमा।
संकेत	लगातार बजरको साथ डिस्प्लयमा HIGH Air सन्देश देखिनेछ। हीटर पावर इंडिकेटर
उपायहरू	वायु सेन्सर शिशुसँग जोडिएको छ भने त्यसलाई हटाउनुहोस्। हीटर पावर इन्डीकेटर बन्द हुनुपर्दछ।





न्युन छाला तापक्रम

कारण

छालाको तापक्रम सेट पोइन्ट भन्दा कम भएमा।

संकेत

लगातार बजरको साथ डिस्प्लेमा

LO tP

सन्देश देखिनेछ।

उपायहरू

हीटर सूचक **अन्** छ वा छैन जाँच गर्नुहोस्।

उच्च छाला तापक्रम

कारण

छालाको तापक्रम सेट पोइन्ट भन्दा बढी भएमा।

संकेत

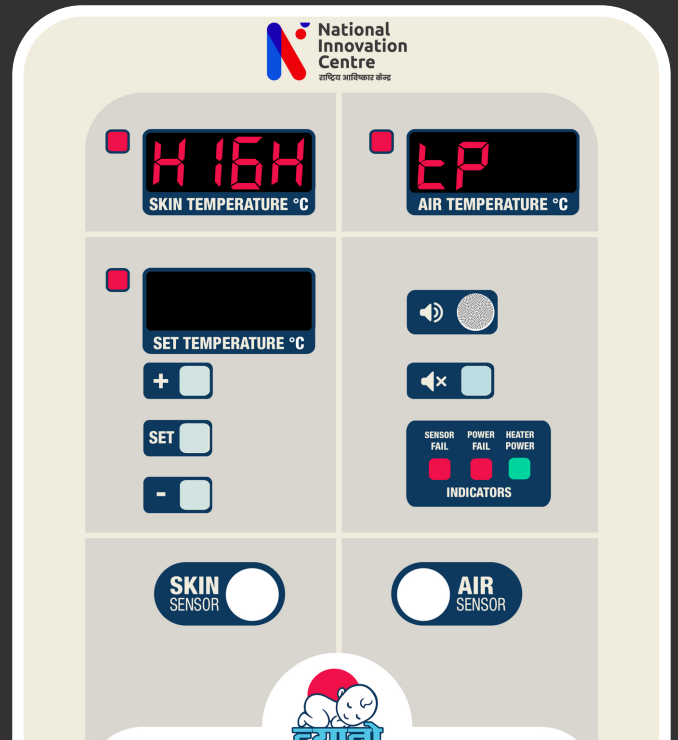
लगातार बजरको साथ डिस्प्लेमा

HIGH tP

सन्देश देखिनेछ।

उपायहरू

हीटर सूचक **अफ** छ वा छैन जाँच गर्नुहोस्।



रोकथाम मर्मत

...



उपकरण को सरसफाई

उपकरणलाई हप्तामा एक पटक राम्रो सफा र डिसइन्फेक्ट गर्नु पर्दछ र सोहि अनुसार शिशुलाई बेसिनेटबाट हटाइसक्दापनि उपकरणलाई सफा गर्न अत्यन्त आवश्यक छ। प्रयोग गर्नु अगाडी र प्रयोग पछाडि सेन्सरटिपलाई एल्कोहल स्वाब प्रयोग गरि सफा गर्नुहोस्।



सेन्सर अनुरक्षण

सेन्सर स्लटमा सेन्सरहरू ठीकसँग जोडिएको छ वा छैन सुनिश्चित गर्नुहोस्। सेन्सर तारहरू घुमाउने वा झटका पुग्ने कुनै प्रकारको क्रियाकलापहरू नगर्नुहोस्।



हीटर अनुरक्षण:

कम्तिमापनि प्रत्येक दुई महिनामा सेक्सनबाट हीटर हुड हटाइ तारहरूको नियमित जाँच गर्नुहोस्।



राष्ट्रिय
आविष्कार
केन्द्र

National Innovation Centre



थप जानकारीको लागि कोड स्क्यान
गरी हाम्रो वेबसाइटमा जानुहोस्



नोट: शिशुको अधिकतम सुरक्षा सुनिश्चित गर्न **IEC 6061-2-21**
द्वारा जारी सम्पूर्ण दिशानिर्देशहरूको पालना गरी यस उपकरण
निर्माण गरिएको छ।

राष्ट्रिय आविस्कार केन्द्रद्वारा डिजाइन र निर्मित



त्रि.वि., रिकास्ट रोड, कीर्तिपुर



९८४३१७१२७८, ९८१०३०७४५२



राष्ट्रिय
आविष्कार
केन्द्र

National Innovation Centre