



# SHELLY

Neonatal incubator  
from standard to intensive care

Care of the youngest and most vulnerable patients is our priority in TSE. Protection and support of newborn babies has been our goal since 1992. Physicians and healthcare staff prefer our products for their reliability, technical advancement and user synergy.

Thanks to the thorough study of infants' needs in everyday practice, we are able to meet our resolutions with love for children – to minimize stress, provide absolute comfort to small patients and offer their attendants a perfectly functional and safe product.

**WE PROTECT  
OUR FUTURE**

# SHELLY

Incubator SHELLY provides a protected and comfortable environment and enables the healthcare staff to be always one step ahead of the demanding needs of the smallest patients.





## SECURITY AS TOP PRIORITY

### Acoustic comfort

A quiet environment is the basic feature of infant incubators, but incubator SHELLY has brought it to perfection – the noise level in the patient space is only 38 dB.

### Thermal comfort

An air curtain is automatically activated when the incubator door is opened, which reduces heat loss.

Protection can be enhanced by a “click-in” double walled cover, which creates a more stable environment and provides an extra acoustic barrier.

### Sophisticated alarm announcement system

As we care about the safety of small patients we have developed a sophisticated alarm announcement system.

Two-stage light and acoustic signalling system exactly reflects the patient’s condition:

**Stage 1: caution, stage 2: warning**

The cause of the incubator alarm and advice how to solve it appears on the screen, and thus allows the doctor or the nurse to solve potential problems effectively.

“ We know that the perfect place for an immature baby is in the mother’s womb and we try to converge towards to such conditions as much as possible.

### Dual control

To provide even greater safety there is dual microprocessor control of all functions – everything is checked twice, by two independent processors.

### Vital functions monitoring

TSE selected Masimo Rainbow SET® is the first and only technology platform capable of non-invasive and continuous measurement of total hemoglobin (SpHb™) and pleth variability index (PVi®), in addition to oxyhemoglobin (SpO<sub>2</sub>), perfusion index (PI), and pulse rate (PR). These measurements provide additional physiological data at the point-of-care that can help clinicians assess patient status and detect adverse conditions much earlier.

Masimo Pulse Oximetry technology provides superior performance and reliable readings under challenging conditions like low perfusion and patient movement.

The monitoring system is fully integrated into the display, which allows setting of alarm limits, as well as continuous recording of measured values and trends.

## FOCUSED ON THE NURSES

### Cleaning and disinfection

The unique system of incubator SHELLY was designed not only for easy operation but also for effective cleaning. Smooth and simple design of the incubator with only a few detachable parts which are easy to disassemble and clean minimizes the time of entire procedure.

“ I want to spend time caring of my patients, not incubator.



# SMART DESIGN MODERN TECHNOLOGY INNOVATIVE FUNCTIONS



NEW

The shape of the top cover allows undistorted view of the patient.



Double walled "click-in" cover creates more stable environment and serves as an acoustic barrier.



Dual temperature probes enable monitoring of the central and peripheral temperatures.



The window that never mists over allows medical staff to monitor the young patient even at high levels of humidification.



The functional rack with a hook for infusion may be serviced from both sides of the incubator, can be turned up to 45° and it allows to supplement the required number of shelves or devices.



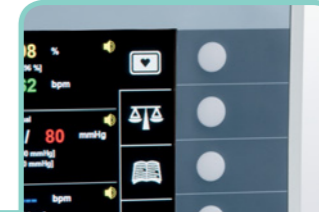
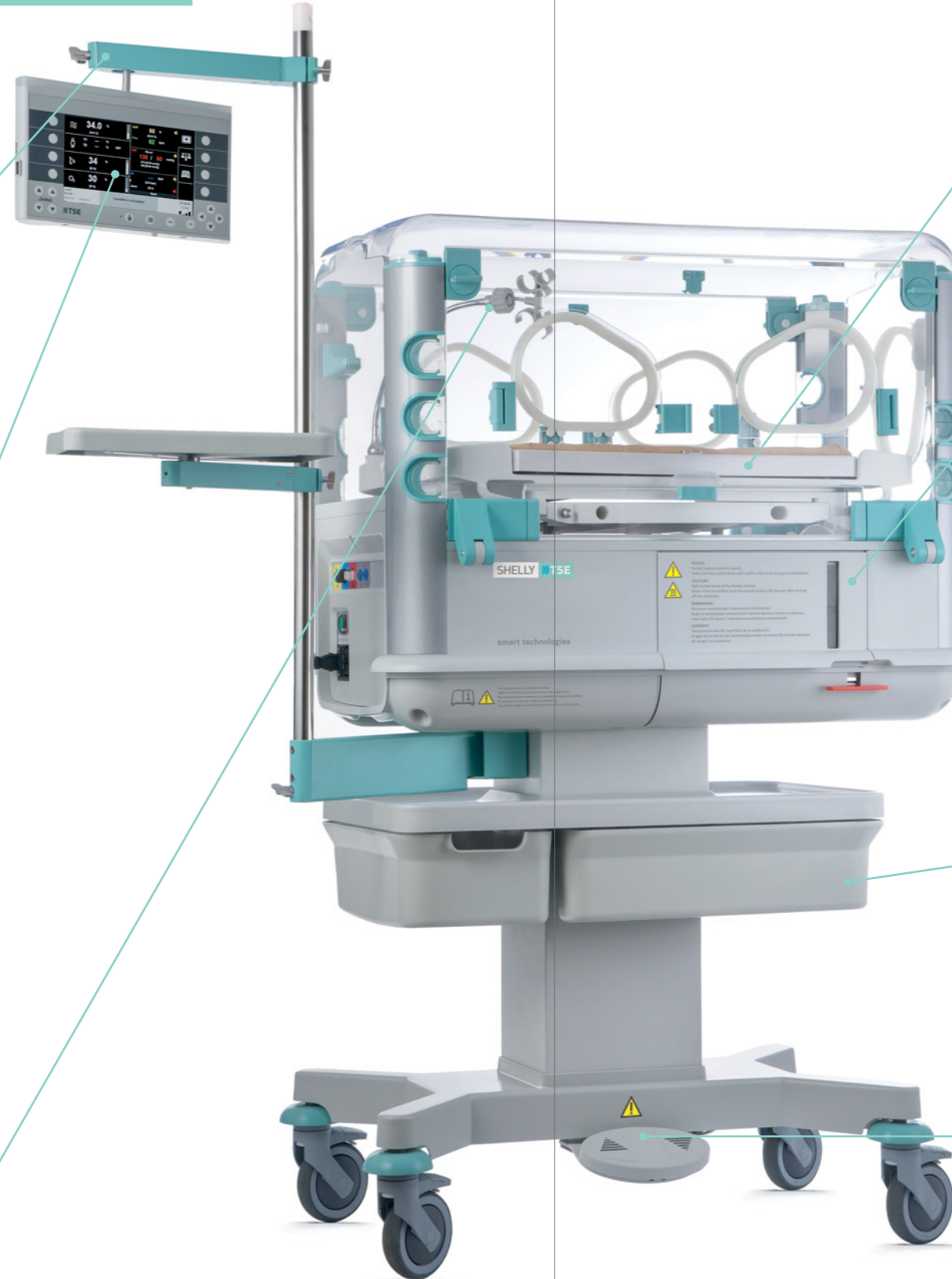
The 9" colour LED display can be smoothly positioned and rotated to any angle according to the needs of the operator and so it is legible even from a longer distance.

Easy and lockable control with colour-coded parameters improves the serviceability of the incubator. Intuitive "step by step" text navigation facilitates incubator operation with instructions for consequent steps.

The course of treatment is monitored by a unique trend system which enables comparison of more parameters, with records every 2 minutes for 14 days, including assignment of the records to the child patient's card situated in the incubator and thus gives doctors a perfect overview of the patient's condition.



A holder of hoses for ventilation, suction and food supply, located neatly inside the incubator on a 360° revolving head.



Integrated high precision scales measure and record weight increments of the child in a table and graph.



An integrated servo-controlled air humidification system indicates a low water level and allows a 100% sterilization by autoclave.



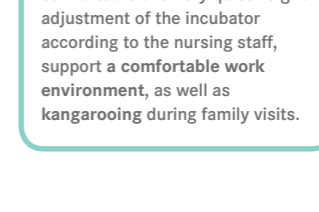
Euro rail provides opportunities for flexible fixation of optional accessories at the head and foot of the patient or the location of additional shelves.



IRIS ports allow easy access to the patient while maintaining high hygiene and temperature stability requirements.



A lower shelf and optional storage drawers provide safe and hygienic storage of healthcare material and all the other things.



Double-sided pedals for comfortable and very quiet height adjustment of the incubator according to the nursing staff, support a comfortable work environment, as well as kangarooing during family visits.



Plexiglas cover and door enable high visibility of the child at all times.



An adjustable bed, extensible to both sides, which can be rotated by 45° at the patient's head, facilitates access to treatment, care and forming emotional bonds with family.



A drawer for an X-ray cassette is a part of the bed.



IRIS ports allow easy access to the patient while maintaining high hygiene and temperature stability requirements.



5 port holes, 10 hose inputs and two entrance doors tilt-able by 180° facilitate access to the patient during medical treatments and therapies.



## FROM THE CUSTOMER'S VIEW

I could choose incubator configuration according to the needs of our hospital.

### A European manufacturer as a guarantee of quality

Robust durable construction and low failure rate of the incubator ensures low maintenance costs and service and offers a truly valuable and economical solution for various clinical environments.

### Maximum flexibility

We can customize the incubator according to the individual needs of our customers and more than meet their special needs and wishes. The possibility of optional modules transforms a standard incubator into an intensive care model.

## COMPLEMENTARY AND OPTIONAL ACCESSORIES

- Monitoring of vital functions with MASIMO SpO<sub>2</sub>
- Dual temperature probes
- Oxygen (O<sub>2</sub>) regulation
- Integrated weighing scale
- Double Plexiglas wall
- Holder of hoses for ventilation, suction and food supply
- Examination light
- IRIS hand port

### High quality oxygen sensors

Routine procedures such as calibration of the oxygen sensor is now a thing of the past. We offer a choice of better oxygen sensors with longer life and extended calibration intervals.

### Compact design

A number of integrated functions often leads to the increase of spatial volume of incubators. Incubator SHELLY has, however, kept a compact design that suits with its dimensions smaller neonatological workplaces.

- Infusion hook
- Additional shelf for IV pole
- Additional shelf for Euro rail
- Closed storage boxes on the lower part – 2 pcs.
- Backup power
- Choice of one-sided or double-sided pedals for adjustable height of undercarriage
- Antistatic wheels

## TECHNICAL SPECIFICATIONS

Type designation	SI-610-1
Power voltage	110/120/230 V / 50-60 Hz ~
Power input	with fixed height: 550 VA with adjustable height: 600 VA
Height	1450 mm
Version with height adjustable undercarriage	1320-1520 mm at the top cover 1575-1775 mm at the IV pole
Length	1150 mm
Width	610 mm
Weight	96 kg
Version with height adjustable undercarriage	106 kg
Noise level inside the canopy (without O <sub>2</sub> dosing)	max. 38 dB
Electric bed positioning (Trendelenburg and anti-Trendelenburg)	12°
<b>Temperature mode (servo controlled)</b>	
Air temperature mode (adjustment range)	20.0 °C-37.0 °C, in 0.1 °C increments 37.1 °C-39.0 °C, in 0.1 °C increments
Air temperature adjustment over 37.0 °C	only upon special operator's intervention by pressing the > 37 °C key
Body temperature mode (adjustment range)	34.0 °C-37.0 °C, in 0.1 °C increments 37.1 °C-39.0 °C, in 0.1 °C increments
Body temperature adjustment over 37.0 °C	only upon special operator's intervention by pressing the > 37 °C key
Automatic adjustment of lower and upper alarm limits	±2 °C from the required adjusted air temperature ±1 °C from the required adjusted body temperature
Range of displayed temperature values	10.0 °C-45.0 °C
Temperature measurement accuracy	±0.1 °C ±1 digit
Temperature control accuracy	±0.3 °C from the adjusted value
<b>O<sub>2</sub> mode (servo controlled)</b>	
O <sub>2</sub> concentration adjustment (adjustment range)	22-75 %, in 1 % increments
The range of O <sub>2</sub> concentration on the display	10-100 %
Attainable O <sub>2</sub> concentration inside the incubator	75 % O <sub>2</sub>
O <sub>2</sub> concentration measurement accuracy	±3 % ±1 digit
O <sub>2</sub> regulation accuracy	±1.5 % O <sub>2</sub> from the adjusted value
<b>Relative humidity mode (servo controlled)</b>	
RH adjustment (adjustment range)	40-95 %, in 1 % increments
RH display range	10-99 %
Attainable RH inside the incubator	95 %
RH measurement accuracy	±5 % ±1 digit
RH regulation accuracy	±5 % from the adjusted value
Water tank	1.5 l demineralized water
<b>Weighing mode</b>	
Scales range	max. 6 kg
Range of displayed weight values	0-6 kg
Scales accuracy	±2 g ±1 digit (from 0 kg to 1 kg) ±5 g ±1 digit (from 1 kg to 3 kg) ±10 g ±1 digit (from 3 kg to 6 kg)
Resolution	per 1 g
Records	weight trends weight increments
<b>Integrated monitoring of vital functions Masimo rainbow SET®</b>	
<b>Oxygen Saturation (SpO<sub>2</sub>)</b>	
Range of displayed SpO <sub>2</sub>	0-100 %
Measurement accuracy, no motion (RMS)	±3 % ±1 digit within 70-100 % SpO <sub>2</sub>
<b>Pulse Rate</b>	
Range of displayed pulse	25-240 bpm
Measurement accuracy, no motion (RMS)	±3 bpm ±1 digit
<b>PI</b>	
Range of displayed PI	0-20 %
Measurement accuracy, no motion (RMS)	±10 % of PI
<b>PVi</b>	
Range of displayed PVi	0-100 %
<b>SpHb</b>	
Range of displayed SpHb	0-25 g/dL
Measurement accuracy, no motion (RMS)	±1 g/dL

**WE PROTECT OUR FUTURE**

TSE products help newborn babies in almost 60 countries around the world.

## MANUFACTURER



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## DISTRIBUTOR

## EMPHASIS ON QUALITY



ISO 9001



ISO 13485

## LICENCE



