

# 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.

**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.**

### 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.

### Dual control

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

### Vital signs monitoring

The precise and permanent monitoring of vital functions **SpO<sub>2</sub> including pulse, NIBP and RR** is a reliable mechanism for providing complex and prudent medical care.

The integrated monitoring system with adjustable alarm limits continuously records the measured values.

## 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



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.



Examination LED lamp provides plenty of evenly distributed light for observation and treatment even in dim light or in the dark. A flexible holder allows adjustment of the lamp into desired position.



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.



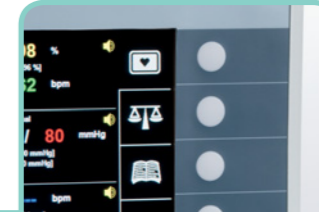
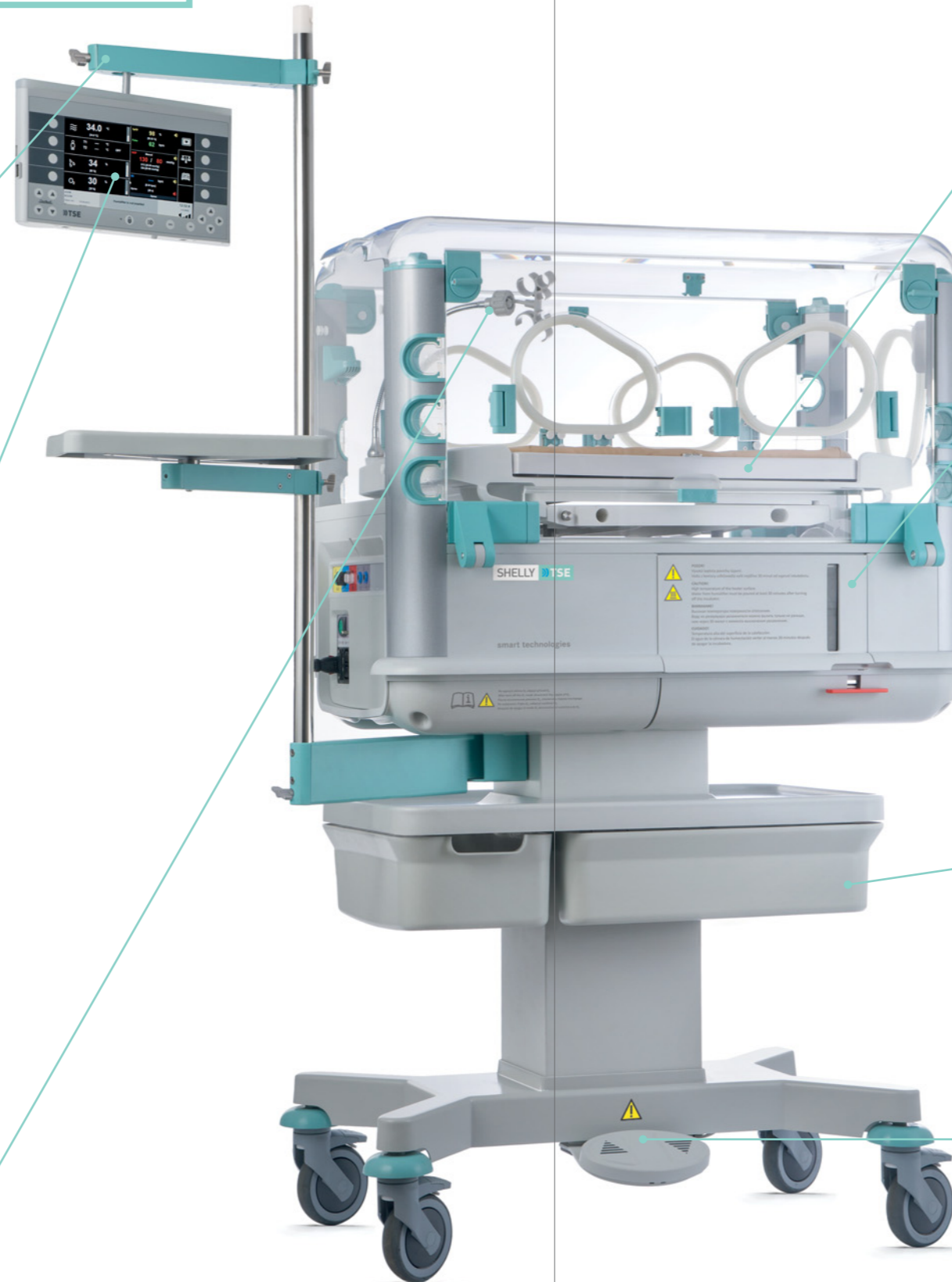
The 9" colour LED display can be smoothly positioned and rotated to any angle according to the needs of the operator and so it is legible even from a longer distance.

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.



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



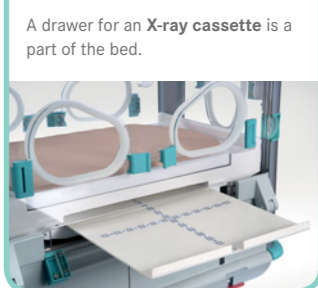
Double-sided pedals for comfortable and very quiet height adjustment of the incubator according to the nursing staff, support a comfortable work environment, as well as kangarooing during family visits.



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.



Versatile positioning accessories (horseshoe + nest) specially designed for completely optimal positioning for the motoric development of infants while providing maximum natural and safe environment.



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.

### 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 it's dimensions smaller neonatological workplaces.**

## COMPLEMENTARY AND OPTIONAL ACCESSORIES

- Dual temperature probes
- Oxygen (O<sub>2</sub>) regulation
- Monitoring of vital functions
- Integrated weighing scale
- Double Plexiglas cover – complete
- Double Plexiglas cover – top cover
- Holder of hoses for ventilation, suction and food supply
- Examination light
- IRIS hand port
- Infusion hook
- Additional shelf for IV pole
- Additional shelf for Euro rail
- Closed storage boxes on the lower part – 2pcs.
- Backup power
- Choice of one-sided or double-sided pedals for adjustable height of undercarriage
- Antistatic wheels
- Positioning accessories

## TECHNICAL SPECIFICATIONS

|   |  |
|---|--|
| Power voltage   | 110/120/230 V ±10 % / 50-60 Hz ~   |
| Power input   | With fixed height: 550 VA<br>With adjustable height: 600 VA  |
| Dimension data:   |  |
| Height  | 1450 mm  |
| Version with height adjustable undercarriage                    | 1320-1520 mm at the top cover<br>1575-1775 mm at the IV pole   |
| Length  | 1150 mm  |
| Width   | 610 mm   |
| Weight data:  |  |
| 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<br>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<br>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<br>±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)                                | 40-90 %, in 1% increments  |
| RH display range  | 10-99 %  |
| Attainable RH inside the incubator                              | 90 %   |
| 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)<br>±5 g ±1 digit (from 1 kg to 3 kg)<br>±10 g ±1 digit (from 3 kg to 6 kg) |
| Resolution  | per 1 g  |
| Records   | weight trends<br>weight increments   |
| <b>Integrated monitoring of vital function</b>                  |  |
| <b>SpO<sub>2</sub> and puls</b>                                 |  |
| Range of displayed SpO <sub>2</sub>                             | 0-100 %  |
| SpO <sub>2</sub> measurement accuracy                           | ±3 % ±1 digit within 40-70 % SpO <sub>2</sub><br>±2 % ±1 digit within 70-100 % SpO <sub>2</sub>              |
| <b>NIBP</b>   |  |
| Range of displayed NIBP   | 15-260 mmHg  |
| NIBP measurement accuracy                                       | ±3 % ±1 digit  |
| <b>RR</b>   |  |
| Range of displayed RR   | 0-200 breath/min.  |
| RR measurement accuracy   | ±1 breath/min. ±1 digit  |



Made in the Czech Republic.

## MANUFACTURER



**TSE spol. s r.o.**

Mánesova 74, 371 52 České Budějovice, Česká republika  
telefon: +420 386 721 149, fax: +420 386 721 102  
medical@tse.cz, www.tse.cz

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