

A newborn baby is being held by a medical professional in a sterile operating room. The baby is wrapped in a white cloth, and the professional is wearing a blue surgical cap and a white face mask. Another medical professional is visible in the background, also wearing a blue surgical cap and a white face mask. The scene is brightly lit, and the overall atmosphere is clinical and focused.

# Open Care Warmer

BABYROO TN300

# Disclaimer



All savings or monetary risks mentioned in this document are based on exemplary data. Only certain parameters of the entire cost accounting were used for the analysis. Parameters not listed were not used for the analysis. The assumptions made are based on internal experience and neonatal nurse input, but do not claim to be accurate or complete. Actual cost savings / risks will vary based on independent factors, such as individual contract pricing, patient volume, interface selection, etc. The assumptions made are detailed in the following document.

This document is for informational purposes only and does not replace or amend the instructions for use.

**Not all product features, accessories and services are available in all countries. Please contact your local Dräger representative for more information.**

## GLOSSARY

<b>AHA</b>	American Heart Association
<b>APGAR</b>	Appearance - Pulse - Grimace - Activity - Respiration
<b>BPD</b>	Bronchopulmonary Dysplasia
<b>ELBW</b>	Extremely Low Birth Weight
<b>ERC</b>	European Resuscitation Council
<b>HR</b>	Heart Rate
<b>IHT</b>	Intrahospital Transfer
<b>ILCOR</b>	International Liaison Committee on Resuscitation
<b>IVH</b>	Intraventricular Haemorrhage
<b>L&amp;D</b>	Labour & Delivery
<b>MV</b>	Minute Volume
<b>NICU</b>	Neonatal Intensive Care Unit
<b>NRP</b>	Neonatal Resuscitation Program
<b>WHO</b>	World Health Organization

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LEGEND: CLICK ON THESE SYMBOLS FOR MORE INFORMATION.



VIDEO HYPERLINK



HYPERLINK

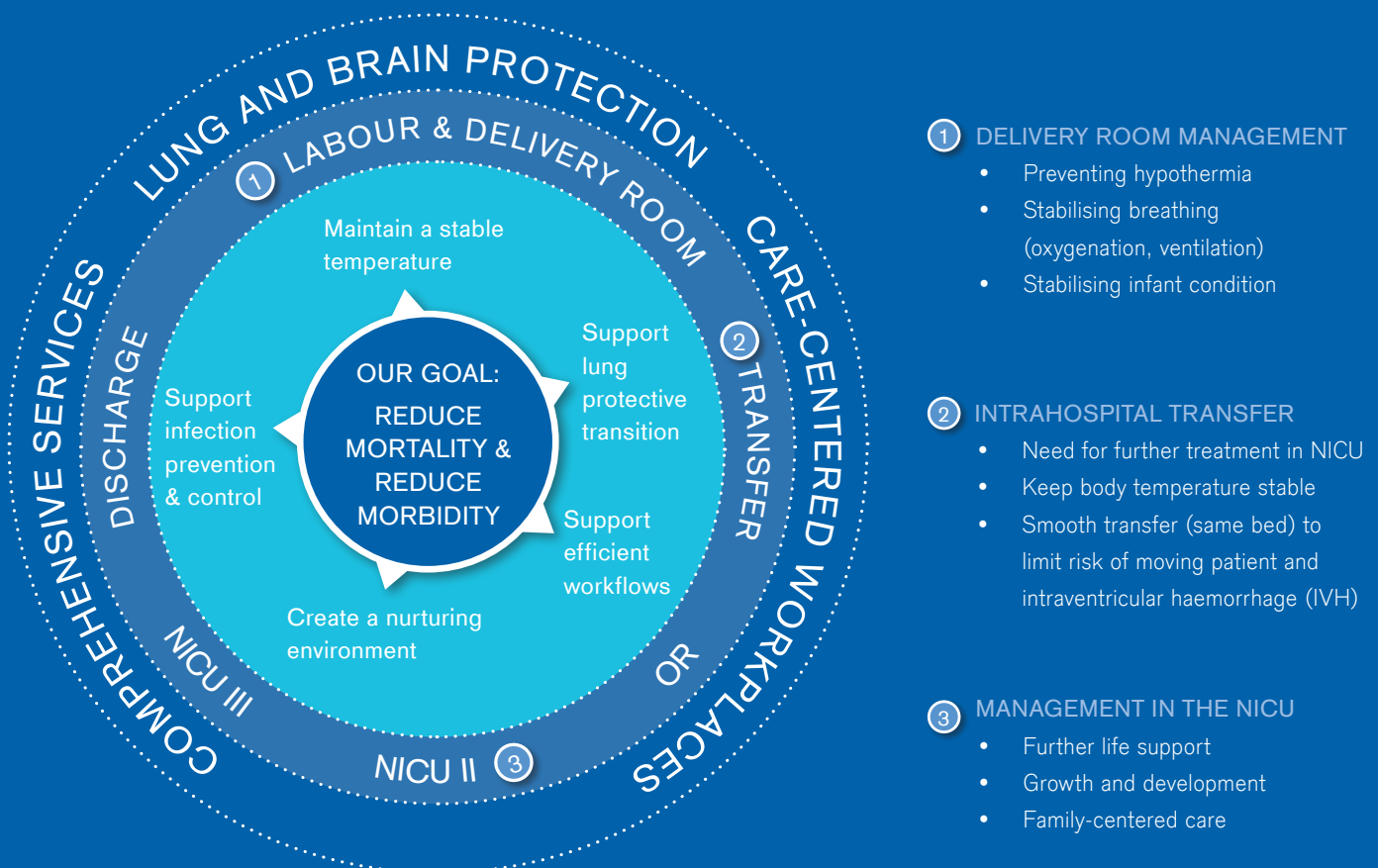
# Executive Summary

Approximately 10% of newborns require some assistance to begin breathing at birth. Less than 1% require extensive resuscitation measures.<sup>1</sup> Although most newly born infants successfully transition from intrauterine to extrauterine life without special help, a significantly increasing number will require some degree of resuscitation<sup>2</sup>.

Preterm infants are especially at increased risk of morbidity and mortality because of the immaturity of their body systems, specifically, the lungs and the developing brain.

The prevalence of complications, such as bronchopulmonary dysplasia, retinopathy of prematurity, severe intraventricular haemorrhage, and periventricular leukomalacia have not changed substantially over the last years.<sup>3-5</sup> Moreover, these infants continue to be at risk of adverse neurodevelopmental sequelae.<sup>6</sup> Labour & delivery room practices during the first minutes of life have a great potential to improve these outcomes.<sup>7</sup>

OUR GOAL IS TO HELP YOU ADDRESS THESE CHALLENGES ALONG THE BABY'S PATHWAY



# „Every newborn deserves a good start in life.“

Stefan Dräger, Executive Board Chairman



## Why Dräger?

For over 125 years, we have been Your Specialist in Acute Care. Our goal is to improve clinical outcomes by managing costs, enhancing patient experiences, and ensuring staff satisfaction. That's why Dräger continues to be passionate about developing technologies, products, know-how, and services that support you in achieving the best possible outcomes for your patients.

Being your "Specialist in Acute Care", our goal is to help you improve outcomes during the newborn's golden hour, transport path, and NICU stay. In addition, we aim to improve morbidity and mortality rates while reducing stress for both baby and caregiver.

### A Global Leader in Acute Care Technology

Since 1889, Dräger has created solutions that protect life – from innovative anesthesia delivery systems, critical care ventilation, patient monitoring systems to infant warming. With more than 14,000 employees worldwide, Dräger is present in more than 190 countries to serve customers around the globe.

## DISCOVER OUR MILESTONES IN THE DEVELOPMENT OF NEONATAL CARE

Every baby deserves a good start in life – and that's why we have spent more than 50 years dedicating ourselves to developing neonatal care equipment. Learn about the role our devices have played in the history of neonatal care.



D-824-2018



Learn more about our heritage  
in neonatal care

# Improving Acute Care with Dräger Babyroo® TN300

From the labour & delivery room to the neonatal intensive care unit to the final discharge, our open care warmer Babyroo® TN300 is scalable to use in a variety of hospital environments along the patient pathway.

Babyroo® comes with state-of-the-art thermoregulation capabilities to avoid cold and heat stress of the newborn. Further integrated technologies support emergency resuscitation while meeting guidelines.

We designed Babyroo® to give staff the access they need for regular care, emergencies, and surgeries while also supporting family-centred care with a range of tools. Our comprehensive services support you in increasing your device uptime and in managing your lifecycle costs.





## Maintain temperature at all times

Maintaining a normothermic body temperature is a critical function for newborn survival. Admission temperatures that are in the hypothermic range have been associated with increased risk for mortality and late-onset sepsis of preterm infants upon the admittance to the NICU.<sup>11,12</sup> The goal is to

reduce hypothermia and to prevent cold stress after birth and along the whole patient pathway. Reducing this stress actively supports the patient to grow faster and gain weight. Therefore, our Babyroo allows you to monitor and to keep the infant's temperature within normal limits.



### BABYROO SUPPORTS WITH:

- Two combined heat sources for fast warming ramp-up and minimal heat loss.
- Heated gel mattress that works in combination with warmer to maintain desired temperatures.
- Uniform heat distribution to the entire mattress surface even when the bed is tilted.
- Warm-up function to regulate the patient's temperature during admission.
- Tolerate cooling function to support and optimise hypothermia-induced therapy.
- Core and peripheral temperature monitoring for optimal device settings and early indication of thermal stress.
- Skin Mode to help maintain a constant temperature thereby providing a "thermoneutral" environment.

## WHY thermoregulation matters

Efforts to limit heat loss of newborns and preterm infants have been broadly recommended by most of the national resuscitation programs worldwide.<sup>8,9</sup>

Babies exchange heat with their environment through conduction, radiation, convection, and evaporation.<sup>14</sup> Minimising heat loss in newborn infants is extremely difficult due to their high surface-to-volume ratio and increased transepidermal water loss, which results in heat loss by evaporation.<sup>10</sup> Especially ELBW infants experience limited capacity to control body temperature after birth due to higher evaporative heat loss than term infants, reduced glycogen stores, immature skin, and decreased fat mass for insulation.<sup>11,13</sup> Therefore, every effort should be made to keep the infant's temperature within normal limits between 36.5° and 37.5° C during stabilisation, transportation, and in the NICU.



Learn more about the relevance of  
thermoregulation



# Maintain temperature at all times

## RECOMMENDATIONS FOR TEMPERATURE MANAGEMENT:

### Routinely record admission temperature:

The admission temperature has been shown to be a strong predictor of mortality and morbidity.<sup>13</sup> Monitoring the temperature is key to detect early cold stress.

### Maintain the temperature of newly born babies:

The temperature of newborn and preterm infants should be maintained between 36.5°C-37.5°C during stabilisation, transportation, and in the NICU.<sup>16</sup>

### Avoid hyperthermia and hypothermia:

Hypothermia (<36°C) and Hyperthermia (>38°C) should be avoided due to risk of adverse outcomes, e.g. hypoglycemia, hypoxia, and sepsis.<sup>13,15,16</sup>

## HOW can we avoid hypothermia?

### USE OF HEATED & HUMIDIFIED GAS

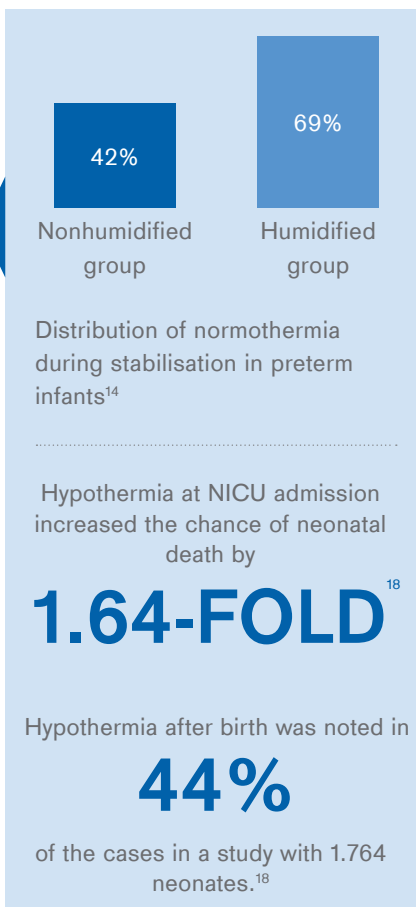
Using heated and humidified gas is a standard of care while providing respiratory support. However, it has not been used routinely in case of resuscitation.<sup>14</sup>

A study with 203 randomised infants has shown greater incidence of normothermia, when receiving early respiratory support with heated and humidified gas during resuscitation.<sup>14</sup>

### SKIN-TO-SKIN CONTACT AFTER BIRTH

Healthy newborn infants who are not in need of resuscitation should be placed in skin-to-skin contact with parents right after birth.

Skin-to-skin contact can be used as a good method to prevent heat loss at birth. Advantages are better thermal control as well as physiological stability.<sup>16</sup>



### PRETERM AND LOW BIRTH WEIGHT

Prematurity and decreasing birth weight are risk factors for hypothermia. Therefore, it is especially important to avoid cold exposure for these patients.

Interventions to improve the body core temperatures are the use of radiant warmers, heated mattresses, plastic bags, wraps, and increased room temperature.<sup>13,16</sup>

### AMBIENT TEMPERATURE CONTROL

The tendency of newborns to lose heat rapidly makes marginal temperature changes during birth a major challenge.

A study showed that an increase in delivery room temperature (to ~25,1°C) benefits the admission temperature of premature infants. The WHO also supports increasing the ambient temperature to 25°C.<sup>17</sup>





## Support lung protective transition

Postnatal adaptation to extrauterine life is a critical process when it comes to reducing mortality, morbidity, and improving neurodevelopmental outcome of the baby: Approximately 10% of all newborns require some assistance to begin breathing after birth, and about 1% require extensive resuscitative measures.<sup>19</sup> Resuscitation of a newborn in a hectic situation bears the risk of insufficient or excessive inflation of fragile

lungs, but it is critical when it comes to reducing mortality and morbidity. Our goal is to reduce the number of respiratory complications that impact poor long-term outcomes and preventable deaths. The respiratory support interface of our Babyroo therefore requires minimal set-up, which helps you standardise your protocols and meet resuscitation guidelines to protect the infant and to ease your workflows.

### BABYROO SUPPORTS WITH:

- Respiratory support interface requires minimal set up and helps you standardise your protocols and meet resuscitation guidelines.
- T-piece allows consistent CPAP and PEEP along with a fixed inspiratory pressure for precise control of respiratory support.
- AutoBreath® automatically delivers the desired levels of FiO<sub>2</sub>, flow, max pressure, rate, and PEEP, freeing up the clinician's hands.
- SpO<sub>2</sub> and Pulse Rate measurement helps you optimise resuscitation settings.
- Smooth transition from T-piece to AutoBreath®: Same circuit can be used to provide T-piece ventilation allowing you the control to stabilise and then switch to AutoBreath® to deliver desired levels of FiO<sub>2</sub>, max pressure, rate, and PEEP.



- Dedicated non-invasive respiratory support system Dräger BabyFlow plus available designed to maximise performance and patient comfort.
- Logical layout and easily accessible controls of the Resuscitation Module for safe device operation even in stressful situations.

### IMPORTANCE OF AIRWAY MANAGEMENT IN THE LABOUR & DELIVERY ROOM

Improvements in respiratory support for preterm infants in the delivery room have great potential to improve the short-term and long-term outcome such as the development of BPD.<sup>20</sup>

#### SOME FACTS

UP TO  
**85%**  
breathe spontaneously  
without interventions<sup>21</sup>

**10%**  
respond after drying, stimulation,  
and airway opening manoeuvres<sup>21</sup>

APPROX  
**5%**  
receive positive  
pressure ventilation<sup>21</sup>

UP TO  
**2%**  
get intubated<sup>21</sup>



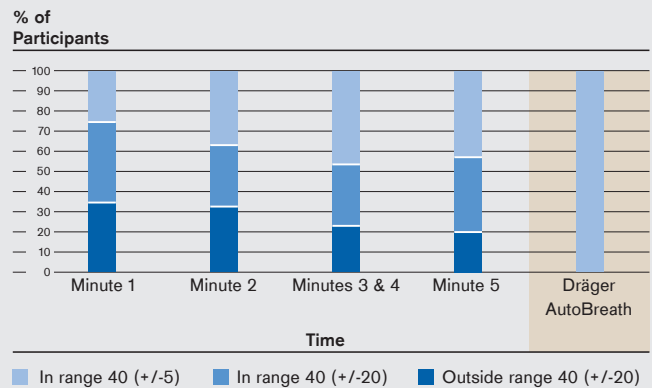
# Support lung protective transition

## Deliver the right breath rates with AutoBreath®

### PERFORMANCE STUDY SHOWS VARIANCE OF VENTILATION RATES AMONG PRACTITIONERS

Seventy-one experienced respiratory therapists volunteered to take part in a performance assessment conducted over a two-day period in 2012 in Scranton, Pennsylvania. The purpose of this study was to test the participants' ability to provide consistent and adequate ventilation rates. The study charted the rate at which they delivered ventilation using a T-piece. The number of breaths was recorded for Minute 1, Minute 2, Minutes 3 & 4 together, and Minute 5. Participants were told to administer 40 breaths per minute, which follows neonatal resuscitation guidelines. The percentage of those who delivered breaths greater than 20 breaths above or below the given standard is shown in dark blue. The study demonstrates the extent to which ventilation rates vary from practitioner to practitioner with the T-piece.<sup>22</sup>

### DID PARTICIPANTS DELIVER THE REQUESTED BREATH RATE?



Results displayed above show the percentage of participants who delivered a breath rate outside the range of acceptable standards and the percentage that was within range for each minute.

### AUTOBREATH® IN BABYROO SUPPORTS TO:

- **Provide consistent care:** AutoBreath® keeps a consistent respiratory rate and shows the applied inflation pressure on the Resuscitation Module. It can be used for patients who need further respiratory support after initial stabilisation.
- **Enhance your delivery of ventilation:** AutoBreath® frees your hands to seal and secure the face mask and thus helps to stabilise ventilation. This is especially helpful in hectic situations or during intrahospital transfers when your patient needs further respiratory support after initial stabilisation.
- **Only one circuit needed:** The same circuit can be used for T-piece and AutoBreath® usage.





# Conduct easy and safe patient transfers

Intrahospital transfers of fragile infants pose significant challenges and complication risks. That goes along with various risks such as infections, temperature instability, lack of monitoring, or unstable ventilation that can lead to poorer outcomes of the infant.

## CLINICAL CHALLENGES



1 degree temperature loss increases risk of mortality by 28%<sup>23</sup>

Maintaining a stable temperature and respiratory care, are key to prevent stress for the patient. Our Babyroo and further products – from ventilation to monitoring – support a smooth intrahospital transfer in only one device to keep the infant in a stable environment.

## BABYROO SUPPORTS WITH:

- Minimal steps to quickly disconnect and start transfer.
- Efficient respiratory support also during transfer: The resuscitation module is an independent pneumatic system, and AutoBreath® functions can be used without the need for electricity.
- Pick and Go with our monitors for continuous monitoring from L&D to the NICU as patient data is stored and monitored along the pathway. This smooths your workflow as electrodes and sensors remain on the patient.
- Convenient transfer of data using a USB flash drive.
- Provisions to attach dedicated neonatal ventilator Dräger Babylog.
- Bed canopy and heated gel mattress for stable temperature during transfers.
- Easy manoeuvrability with large castors and handles for smooth intrahospital transfers.
- Possibility for emergency gas supply with a holder for one or two gas cylinders (O<sub>2</sub>, air).



## FROM DELIVERY TO DISCHARGE

Our goal is to prevent cold stress right after birth and along the whole patient pathway. Reducing this stress actively supports the patient to grow faster and gain weight. Therefore, we look at the entire patient pathway from initial care in the OR or L&D to the transfer, and to the neonatal intensive care unit.

The Hospital Traunstein, Germany used in this case our IncuWarmer Babyleo for transferring neonatal patients from the L&D to the NICU in order to minimise negative influences such as rearrangements, vibrations, and noise, as well as respiratory and thermal instability to the baby.



See an example from The Hospital Traunstein, Germany (from 2019) on how it could look like.



# Conduct easy and safe patient transfers

## Monitor and reevaluate your interventions continuously

One of the most important signs of successful transition is maintenance of a normal heart rate. The occurrence of bradycardia is most frequently a reflection of inadequate lung inflation, and the heart rate is an important decision point in the resuscitation protocol. The continuous display of the heart

rate allows you to continuously reevaluate interventions.<sup>24</sup> The Neonatal Resuscitation Program and the International Liaison Committee on Resuscitation recommend the monitoring of oxygen saturation when preterm neonates need resuscitation.<sup>8,9</sup>



### BABYROO SUPPORTS WITH:

- Continuous monitoring of clinical variables such as pulse rate, blood oxygen saturation, and temperature.
- Fast assessment of the infants' condition with an intuitive user interface showing vital parameters, skin and mattress temperature, patient information, and target pre-ductal SpO<sub>2</sub> table synched with APGAR timer.
- Practices such as kangaroo care that are monitored so that alarm management is being considered and measures can be taken quickly if necessary.
- Pick and Go patient monitors that can travel with infants from the L&D to the NICU with no interruption in monitoring, no disconnection of leads, no loss of measured parameters, and no gap in patient data.

## Continuous MONITORING improves patient safety

Specific incidence of adverse effects associated with a clinical decline during intrahospital transport (IHT) ranges from 17% to 33%.<sup>25</sup> Recommendations call for the development of adapted equipment and the widespread use of checklists and proper training programs to increase the safety of IHT and reduce the risks in the long term.<sup>25</sup>



### CUSTOMER VOICE ABOUT OUR PICK AND GO SOLUTION

**"If something were to happen in transport,** you can easily check the data afterward when you have reconnected the patient to the central station. It is also very easy to check data on the monitor, so that has improved things a great deal. It has actually been lifesaving in some cases."

CCU Nurse<sup>26</sup>

D-14865-2018

D-15052-2018



# Break the chain of infections

We understand that premature babies are especially vulnerable to infection due to their weak immune systems. That's why our neonatal care solutions are designed with hygiene in mind. Within our own Dräger Test Center we have direct access to the testing of material compatibility with disinfectant agents.

The design of our neonatal care devices supports an easy cleaning and reprocessing process. With our growing range of disposable accessories and consumables we support the prevention of cross contaminations.

## BABYROO SUPPORTS WITH:

- Improved design with a compact heater that does not inhibit access to the patient and helps minimise the need to touch the device.
- Smooth and plain surfaces with no hidden gaps or hard edges, plus limited assembly pieces, make it easy to clean.
- Designed with robust materials to withstand hygienic cleaning without degradation.
- Validated for hygienic cleaning.
- Disposable accessory solutions for maximum infection prevention.
- Our accessories fulfill the latest biocompatibility standards.



D-43782-2021

## CLEANING IN 4 STEPS

Limited assembly pieces makes it easy and fast for you to clean. That also minimises device downtime and risk of (cross-) contamination between patients.

The device is easy to clean with only 4 steps to follow:

- ① Disassembly
- ② Surface disinfection cleaning
- ③ Mattress cleaning
- ④ Assembly & check



D-6403-2021



## Create a nurturing environment

Early separation is harmful for both newborn infants and their parents, since it disrupts the biological and emotional bonding that has developed already during gestation.<sup>27,28</sup> Family-centred developmental care and early skin-to-skin contact is important. It supports infant physiology and transition to extra-uterine life and

clinical stabilisation.<sup>29,30,31</sup> It is associated with numerous benefits including decreased length of stay<sup>32,33,34</sup>, enhanced parent-infant attachment and bonding<sup>33,35,36</sup>, improved well-being of pre-term infants, better mental health outcomes<sup>35,37</sup>, better allocation of resources, and greater patient and family satisfaction<sup>32,35,38</sup>.

### BABYROO SUPPORTS WITH:

- Kangaroo Mode allows alarm limits to be adjusted to minimise disturbances while parents provide skin-to-skin care.
- Personalised screen and Family View with icon and patient name makes parents feel welcome.
- Due to its variable height adjustment, caregiver and parent have easy access to the newborn.
- Minimal handling of the baby thanks to integrated scale and pass-through X-ray tray.
- Low operational noise level.
- Developmental care accessories such as SoftBed mattress and cuddling toy.



### DID YOU KNOW?

Why did we name our new open care warmer “Babyroo”? Because our goal in neonatal care is to give every baby a good start in life and a safe place to grow—as naturally as possible—much like a mother kangaroo.



### CLINICAL GUIDELINES AND BEST PRACTICES

Skin-to-skin contact (Kangaroo Care) is recommended by all major organizations responsible for the well-being of newly born infants, including The World Health Organization (WHO)<sup>39</sup>, the American Academy of Pediatrics (AAP)<sup>40</sup>, the Academy of Breastfeeding Medicine (ABM)<sup>41</sup>, and the Neonatal Resuscitation Program (NRP).<sup>42</sup>



**Why early experiences matter**  
Kangaroo Care & Parent Bonding



### SOME FACTS ABOUT KANGAROO CARE

# 40%

Lower morbidity rates (before discharge)<sup>43,44</sup>

# 20%

More likely to be exclusively breast feeding before discharge<sup>43,44</sup>

# 50%

Lower rate of healthcare associated infections (HAI) / sepsis<sup>43,44</sup>

# 3,7g

Higher average weight gain per day<sup>43,44</sup>



## Support efficient workflows: Intuitive and ergonomic device design & features

Efficient and consistent workplace and device design help to provide optimal care for the smallest patients. Smooth processes become increasingly important to optimise procedures. Babyroo's design and features make it easy,

intuitive, and ergonomic for you to care for the infant – in order to minimise human errors or delays in operation, to fulfill resuscitation guidelines, to ease workflows, and to allow good accessibility for staff and parents.



D-6365-2021

The resuscitation module comes with a 12 o'clock concept to help you follow recommended NRP/ILCOR guidelines and standardise resuscitation protocols across the perinatal care area.



D-6367-2021

Pre-configured screens display vital parameters.



D-6369-2021

Storage drawers with instrument tray.



D-6368-2021

Integrated bed-tilt indicator allows you to follow hospital protocols. You can also weigh the patient while the bed is tilted.



D-6370-2021

Integrated scale to minimise handling of the infant and help weigh the baby to give appropriate drugs.



D-6406-2021

APGAR & SpO<sub>2</sub> pre-ductal target table for therapy support according to resuscitation guidelines.



D-6374-2021

Integrated pass-through X-ray tray to minimise handling of the infant.



D-6372-2021

Variable height adjustment to individualise your workstation to your and your parents' needs.



DMC-101760

„The large and clear display of Babyroo corresponds to the operating philosophy of Dräger devices and enables a good overview and intuitive operation. This simplifies our processes and helps prevent possible operating errors. In other words, it leads to greater patient safety. The preconfigured screens for different areas of use and scenarios are also very useful - from the screen for the delivery room with APGAR timer and stopwatch to the family screen, which is more inviting for parents. These screens allow us to quickly switch between views, parameters and trends, helping us simplify our routines.“

Dr. Tobias Trips  
Head of the Pediatric Department at the Hospital Kufstein, Austria



## Support efficient workflows: Scalable design & workplace integration

Babyroo is versatile all along the patient pathway of a newborn, from the labour and delivery room for primary care to intrahospital transfers to the NICU for intensive care. Our range of products for the L&D, NICU, and transfer support

continued therapy and monitoring along the clinical patient pathway and enable a developmental care-friendly environment to support all of the complex needs of the developing infant.

### BABYROO SUPPORTS WITH:

- Configure your neonatal workplace to your department's needs: A choice of basic configurations and views, as well as a variety of accessories, lets you custom-configure the warmer.
- Ergonomic workstation design with storage and mounting options for monitoring, ventilator and jaundice equipment, as well as convenient cable management.



D-6431-2021

As your Specialist in Acute Care, we can design and provide complete neonatal workplaces that focus on efficient workflows and your patient needs.



### WORKPLACE SOLUTION EXAMPLES

A broad range of products as well as accessories is available to custom-configure your workplaces. All Dräger modalities work seamlessly together to make the care of your patients easy, intuitive, and ergonomic.

External phototherapy light Dräger BiliLux or advanced neonatal ventilator Dräger Babylog VN800/600 as well as a humidifier, patient monitor M540, IV pumps, or a suction unit can be attached and used with Babyroo.



**Dräger Babylog  
VN800/600**  
Dedicated neo-  
natal ventilator



**Dräger JM-105**  
Non-invasive  
jaundice meter



**Dräger BiliLux**  
LED-photo-  
therapy light



**Dräger VarioLux**  
Examination light



# Manage product & lifecycle costs

We share the same goals: You and your hospital put your efforts into improving quality and standards such as clinical outcomes, while trying to make it possible with a limited budget and increasing costs.

Increasing healthcare costs have made us more aware of the pressures your hospital faces. So as not to hinder our business commitment to you, we keep your budget constraints in mind by offering a range of products and services to fit your needs.

## PRODUCT SCALABILITY:

- Configure to your department's needs: A choice of basic configurations and a variety of accessories let you customise the unit to your needs in the L&D, for intrahospital transfers, and for use in the NICU.
- Resuscitation Module is available in 3 variants so you can configure the device to your special needs and financial circumstances.
- Pneumatic Resuscitation Module available for use without the need for electricity.
- Conduct short intrahospital transfer so no further device for transfers between your departments is needed.

**Different variants of the resuscitation module are available and can be chosen based on your needs and use environment.**



No resuscitation module



Resuscitation module with gas mixer only



Resuscitation module with gas mixer and AutoBreath®



Labour and Delivery Unit



Intrahospital Transfer



Neonatal Intensive Care Unit

# Customised Dräger Services along the complete product lifecycle

Increase uptime of your medical equipment and minimise potential costs with a broad portfolio of services specifically tailored to your needs.

## OUR SERVICES FOR YOU:

- Service contracts ensure predictable prices per device and year and therefore ensure budget security as well as plannable service visits. This causes fewer workflow interruptions and prolongs the service life of your device fleet.
- Our contracts are precisely tailored to your device configurations and level of service needed. Decide for budget security on maintenance and repair with TotalCare or just particular services to complete your in-house service.
- A modular repair strategy enables cost-efficient replacements of parts by our experienced service technicians.
- Seamless documentation and test history in adherence to national and international quality and test standards, archived at Dräger for your convenience.

## SERVICE BENEFITS FOR BABYROO:

- Regular preventive maintenance helps to keep your Babyroo always ready for operation and protects against unexpected device failures, workflow disruptions, and costly downtimes.
- No regular overhauls are required for any part of the device.
- Professional yearly device inspection according to manufacturer specifications (using certified test equipment and regularly updated service documentation) ensures a secure device operation, complying at the same time with legal regulations.
- Our First Line Service for small repairs and troubleshooting performed quickly by your in-house biomedical team trained and supported by DrägerService with our expert knowledge and technical documentation.

## IN TOTAL:



### Improve your total cost of ownership position

... by the inclusion of repairs into the services contract to minimise unexpected repair costs



### Protect the investment into Dräger devices

... by ensuring that Dräger service contracts like TotalCare are compliant with quality and safety standards of medical equipment



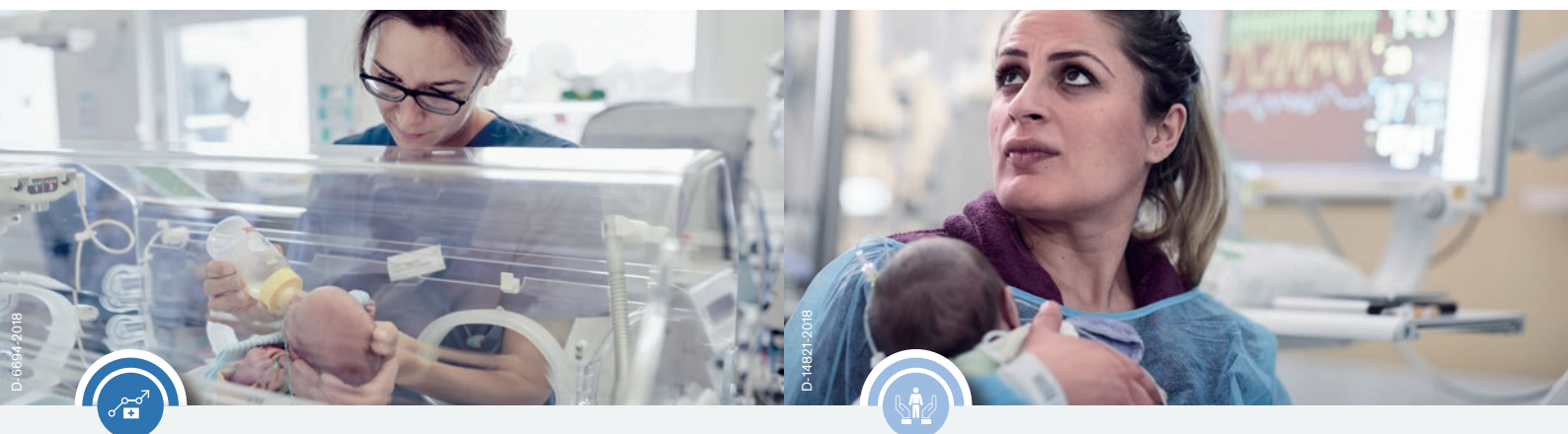
### Support the one-stop-shopping philosophy

... by integrating neonatal care devices into the existing service installed base within your hospital



# Summary: Your Value-Add

## Babyroo supports you in facing your challenges



### IMPROVING CLINICAL OUTCOME

with ...

- stable thermo environment
- consistent inflation rates delivered by AutoBreath®
- continuous monitoring of vital parameters

### ENHANCING PATIENT & PARENT EXPERIENCE

with ...

- a dedicated mode for Kangaroo Care
- a family-friendly design
- features to achieve minimal handling



### ENSURING STAFF SATISFACTION

with ...

- individual workplace configuration
- functionalities supporting resuscitation guidelines
- ergonomic design with good access to the infant

### MANAGING COSTS OF CARE

with ...

- tailored service offerings
- high level of product scalability
- low cost of ownership

# Key Requirements

Below are key factors to consider when evaluating different warmers. We invite you to compare the Babyroo point-for-point with warmers of other manufacturers you might be considering by using the following checklist.

REQUIREMENTS FOR CONSIDERATION	Dräger Babyroo TN300	Competitor 1	Competitor 2
<b>THERMOREGULATION</b>			
2 combined heat sources: – Radiant Warmer – Heated Mattress	●	<input type="checkbox"/>	<input type="checkbox"/>
Central and peripheral temperature monitoring	●	<input type="checkbox"/>	<input type="checkbox"/>
<b>RESUSCITATION</b>			
T-piece, manual bagging, & AutoBreath® in one device	●	<input type="checkbox"/>	<input type="checkbox"/>
Scalable resuscitation module with AutoBreath® and gas mixer options	●	<input type="checkbox"/>	<input type="checkbox"/>
Smooth transition from T-piece to AutoBreath® using a single circuit	●	<input type="checkbox"/>	<input type="checkbox"/>
SpO <sub>2</sub> and Pulse Rate measurement	●	<input type="checkbox"/>	<input type="checkbox"/>
<b>DEVELOPMENTAL CARE</b>			
Personalized “Family View” – Ability to personalise monitor and settings	●	<input type="checkbox"/>	<input type="checkbox"/>
Variable height adjustment for better visibility and access to the infant	●	<input type="checkbox"/>	<input type="checkbox"/>
“Kangaroo Mode” to track bonding time and continue monitoring	●	<input type="checkbox"/>	<input type="checkbox"/>
Operating decibel level ≤ 40 dB(A)	●	<input type="checkbox"/>	<input type="checkbox"/>
<b>EASIER WORKFLOWS</b>			
Scalable design for different hospital environments	●	<input type="checkbox"/>	<input type="checkbox"/>
Integrated scale and pass-through X-ray tray*	●	<input type="checkbox"/>	<input type="checkbox"/>
APGAR and SpO <sub>2</sub> pre-ductal target table	●	<input type="checkbox"/>	<input type="checkbox"/>
Bed-tilt angle indicator	●	<input type="checkbox"/>	<input type="checkbox"/>
Customisable screen views per workflow needs	●	<input type="checkbox"/>	<input type="checkbox"/>
Resuscitation module with 12 o'clock principle to follow resuscitation guidelines	●	<input type="checkbox"/>	<input type="checkbox"/>
<b>INFECTION PREVENTION</b>			
Smooth surfaces with no hard edges and gaps	●	<input type="checkbox"/>	<input type="checkbox"/>
Limited number of parts for easy cleaning	●	<input type="checkbox"/>	<input type="checkbox"/>
Minimal handling due to integrated scale & pass-through x-ray tray	●	<input type="checkbox"/>	<input type="checkbox"/>
<b>INTRAHOSPITAL TRANSFERS</b>			
Bed canopy and heated gel mattress for stable temperatures	●	<input type="checkbox"/>	<input type="checkbox"/>
Continued respiratory support with pneumatic module	●	<input type="checkbox"/>	<input type="checkbox"/>
Pick and Go with our patient monitors	●	<input type="checkbox"/>	<input type="checkbox"/>
<b>COMPREHENSIVE SERVICES</b>			
Yearly inspection and preventive maintenance	●	<input type="checkbox"/>	<input type="checkbox"/>
Modular repair strategy	●	<input type="checkbox"/>	<input type="checkbox"/>

\*If the device is equipped with the SoftBed mattress, the bassinet also includes a mattress support and an x-ray tray. If the device is equipped with the heated gel mattress, the bassinet also includes a mattress warmer.

## Resuscitation Guideline Match (Table Overview)

Babyroo and its complementary portfolio fulfills all applicable steps of the international resuscitation algorithm to manage term and preterm infants.

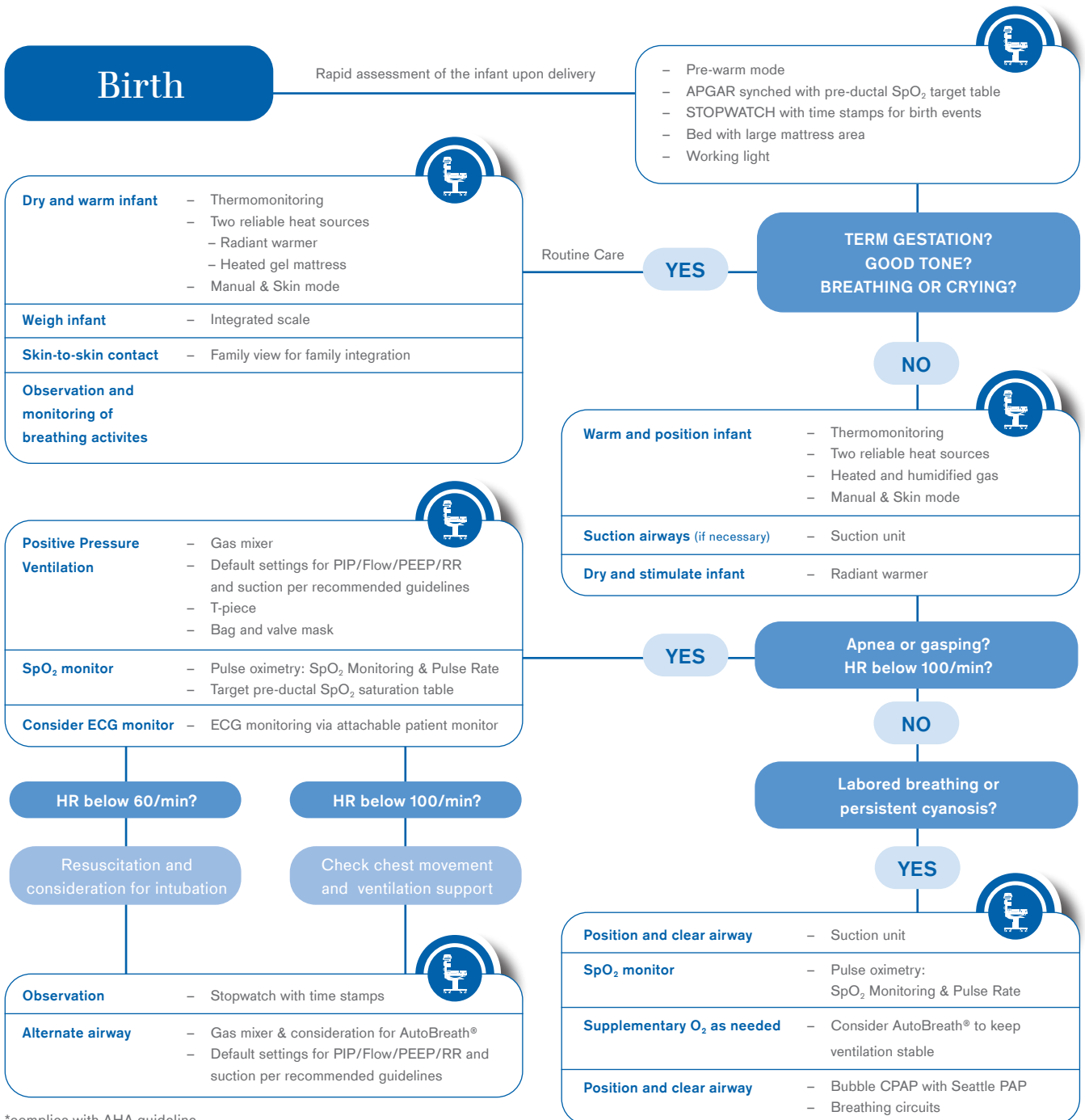
	STEPS DURING RESUSCITATION*	HOW BABYROO SUPPORTS
1	<b>Rapid assessment of the infant upon delivery</b>	<ul style="list-style-type: none"> <li>– Pre-warm mode</li> <li>– STOPWATCH with time stamps for birth events</li> <li>– APGAR synched with pre-ductal SpO<sub>2</sub> target table</li> <li>– Bed with large mattress area</li> <li>– Working light</li> </ul>
2	<b>Routine care</b>	
2.1	Dry and warm infant	<ul style="list-style-type: none"> <li>– Two reliable heat sources               <ul style="list-style-type: none"> <li>– Radiant warmer</li> <li>– Heated gel mattress</li> </ul> </li> <li>– Thermomonitoring</li> <li>– Manual and Skin Mode</li> </ul>
2.2	Weigh infant	– Integrated scale
2.3	Skin-to-skin contact	– Family View for family integration
2.4	Observation and monitoring of breathing activity	
3	<b>Resuscitation and initial steps in stabilization</b>	
3.1	Initial Steps: Warm and position infant	<ul style="list-style-type: none"> <li>– Two reliable heat sources               <ul style="list-style-type: none"> <li>– Radiant warmer</li> <li>– Heated gel mattress</li> </ul> </li> <li>– Thermomonitoring</li> <li>– Manual and Skin Mode</li> </ul>
3.2	Suction airways (if necessary)	– Suction unit
3.3	Dry and stimulate infant	
4	<b>Decision to progress beyond the initial steps by assessment of vital parameters/characteristics: apnea, gasping, breathing and heart rate</b>	<ul style="list-style-type: none"> <li>– Resuscitation module with gas mixer and AutoBreath®</li> <li>– Default settings for PIP, FLOW, PEEP, RR and suction per recommended guidelines for neonates</li> </ul>
4.1	Supplemental O <sub>2</sub>	<ul style="list-style-type: none"> <li>– Bag and valve mask</li> <li>– T-piece</li> </ul>
	Labored breathing, HR>100: Supplemental O <sub>2</sub> /CPAP	– Target pre-ductal SpO <sub>2</sub> saturation table
4.2	Apneic or gasping, HR<100: Positive pressure ventilation	– AutoBreath® to keep ventilation stable
5	<b>Once positive-pressure ventilation or supplementary oxygen administration is started, assessment should consist of evaluation of vital characteristics: heart rate, respirations, oxygen saturation/pulse oximetry</b>	<ul style="list-style-type: none"> <li>– Pulse oximetry               <ul style="list-style-type: none"> <li>– SpO<sub>2</sub> monitor</li> <li>– Pulse rate</li> </ul> </li> <li>– Target pre-ductal SpO<sub>2</sub> saturation table</li> <li>– ECG monitoring via attachable monitor</li> <li>– AutoBreath® to keep ventilation stable               <ul style="list-style-type: none"> <li>– Minimises risk of error</li> <li>– Frees up hands to provide better seal of the mask</li> </ul> </li> </ul>
5.1	Assure ventilation	

\*complies with AHA guideline

# Resuscitation Guideline Match

In neonatal care, the primary goal is to facilitate transition. The Neonatal Resuscitation Algorithm by the American Heart Association shows the key steps for resuscitation and actions after delivery.<sup>44</sup>

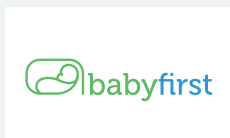
Babyroo and its complementary portfolio fulfills all steps of the international resuscitation algorithm to manage term and preterm infants.\*



\*complies with AHA guideline

## Education and Support

Many regions require continuing education to maintain a clinician license, which can put a financial burden on both staff and hospitals. Dräger offers the following programs to provide high quality education to its customers free of charge.



### **BABYFIRST**

Dräger's education portal for neonatal clinical professionals, BabyFirst, provides videos, clinical guidelines, and presentations on new neonatal developments, neonatal infrastructure solutions and design, as well as developmental care strategies – [www.babyfirst.com](http://www.babyfirst.com)



### **LIVE EDUCATION EVENTS**

Dräger sponsors live clinical symposiums around the world on neonatal and adult critical care. Key industry leaders present best practices and interact with staff to improve their knowledge and clinical practice.

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## Appendix: Workplace solution examples

Individually configured workplaces are essential to effectively support therapies and optimally use the available space within the patient room. By taking individual needs and requirements into account, as well as the type of workplace, we can design tailor-made workstations that support optimised workflows at the bedside, and at the same time are flexible enough to be adapted to new situations.

Workplace example of a labour & delivery room in a university hospital set-up with the focus on high-risk deliveries as well as routine care.

1

### Labour & Delivery Room



D-6431-2021

### NICU – Single Room Concept

2

Workplace example of a high-acuity NICU integrating our warmer Babyroo in the center of a single-room concept with the focus on family integration.



D-6432-2021

### NICU – Open Room Concept

3

Workplace example of a high-acuity NICU with multiple workstations integrating our warmer Babyroo in an open concept.



D-6433-2021

## Appendix: Our service contracts

Your medical equipment performs at its best when correctly calibrated and regularly maintained. We can offer original manufacturer servicing on an ad-hoc basis or scheduled regular service visits for a fixed price per device.



- TotalCare:** Budget security on maintenance and repair.
- PreventiveCare:** Avoid unexpected failures in advance.
- InspectionCare:** Ensure secure operation of your devices.
- ExtendedCare:** Coverage beyond the standard warranty period.

### SERVICE CUSTOMISED TO YOU:

Area	Module	ExtendedCare	InspectionCare	PreventiveCare	TotalCare
Maintenance Work, Parts & Test Reports	Inspection	—	●	●	●
	Preventive Maintenance	—	—	●	●
	Repair	●	—	—	●
	Software Updates	—	●	●	●
Support	Help Desk	●	●	●	●
	Emergency Visits	—	—	—	●
	Extended Working Hours	—	●	●	●
	Loaner Device	●	—	—	●
Service Documentation	ServiceConnect	—	●	●	●
Additional Options	Travel Expenses	●	●	●	●
	Accessories and Consumables	—	—	●	●

● Included ● Optional — Not included

Babyroo was designed as a low maintenance device which makes our TotalCare option a perfect fit. With Babyroo and TotalCare, the focus is not just on repairing the device but also on maintenance activity that helps to avoid unexpected device failures, workflow disruptions, and costly downtimes.

Our services and products can be combined regardless of your device and service level option. For example, combine Babyroo with its sibling products Babyleo or the Babylog neo-ventilation system, and benefit from a service contract that covers all your devices. Those combined contracts support improved long-term budget and planning security while reducing complexity.

Not all products, features, or services are for sale in all countries.  
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