



Planning Documents for Neonatal Care

Preamble

In a neonatal intensive care unit, every day is critical for the survival of the smallest patients. For this reason, premature babies need an environment in which not only the medical parameters are right, but one in which everything is conducive to their growth and development. This includes suitable lighting and lower noise levels as well as factors which support the involvement of parents. Also, efficient and consistent workflows are crucial, in order to handle the increased stress caused by juggling more and more tasks, as well as to provide optimal care for neonates.

We can support you in creating your perfect neonatal environment with customized designs – from consulting to project management to installation. Our flexible concepts can be tailored to your clinical needs to enhance efficiency when it comes to workflow management.

At Dräger we believe that the nurturing environment should support all of the complex needs of the developing brain and organs. An environment that encourages parents to bond with their babies, which is also quiet and serene to support developing senses.

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Where we are heading

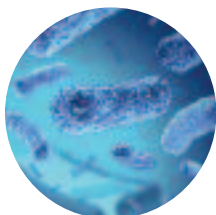
The healthcare market is developing fast due to many different external and internal influences. Global megatrends like globalization and digitalization are effecting the everyday life in hospitals. Financial ramifications are putting pressure on optimizing workflows, while clinical outcomes are becoming more and more important. We at Dräger are aware of these trends and provide solutions for the arising challenges.



D-14940-2018

MORE PRETERM BIRTHS

Approximately 10% of all babies worldwide are born prematurely and need dedicated care. Absolute figures are rising from year to year. Approximately 1 million children die each year due to complications of preterm birth.¹⁾



DL-384/01-2015

INFECTION PREVENTION AND CONTROL

Infection Prevention and Control is becoming more and more important in order to avoid the spread of nosocomial infections. Especially for premature babies, infections are major health risk. 65% of infants with birth weights of less than 1,000 grams have at least one infection during their initial hospitalization.²⁾



D-1272-2019

FAMILY AND STAFF SATISFACTION

Satisfied employees deliver improved care providing better patient and / or family experience. In the future, hospitals will have to compete even stronger, for example with ergonomic workplaces, for qualified caregivers.

In addition, trends can be identified specifically for neonatal intensive care units:

DEVELOPMENTAL CARE

A baby's environment is critical to their growth and development. Developmental care strategies have been designed to reduce the stresses of the NICU for these infants as they are not yet ready for the world outside of their mother's womb. They include a broad range of medical and nursing interventions which aim to provide an appropriate environment for each individual infant.³⁾



D-6666-2018

FAMILY CENTERED CARE

Family-centered care (FCC) is a partnership approach to health care decision-making between the family and health care staff.⁴⁾ This philosophy integrates the parents as part of the team and while the implementation of this philosophy may differ from hospital to hospital, the idea of placing the family members as primary caregivers is consistent.



D-2272-2014

KANGAROO CARE

The kangaroo care method developed in Columbia has many benefits, as e.g. improving the mother-infant attachment, reduction of morbidity and mortality, infections, length of stay, and increasing breast-feeding rates.⁵⁾



DL-16537-2017

¹⁾Website WHO organization, <https://www.who.int/en/news-room/fact-sheets/detail/preterm-birth>

²⁾„Neurodevelopmental and growth impairment among extremely low-birth-weight infants with neonatal infection“, B. J. Stoll, et al., November 2004

³⁾Sizun J, Westrup B. Early developmental care for preterm neonates: a call for more research. Archives of Disease in Childhood - Fetal and Neonatal Edition 2004;89:F384-F388

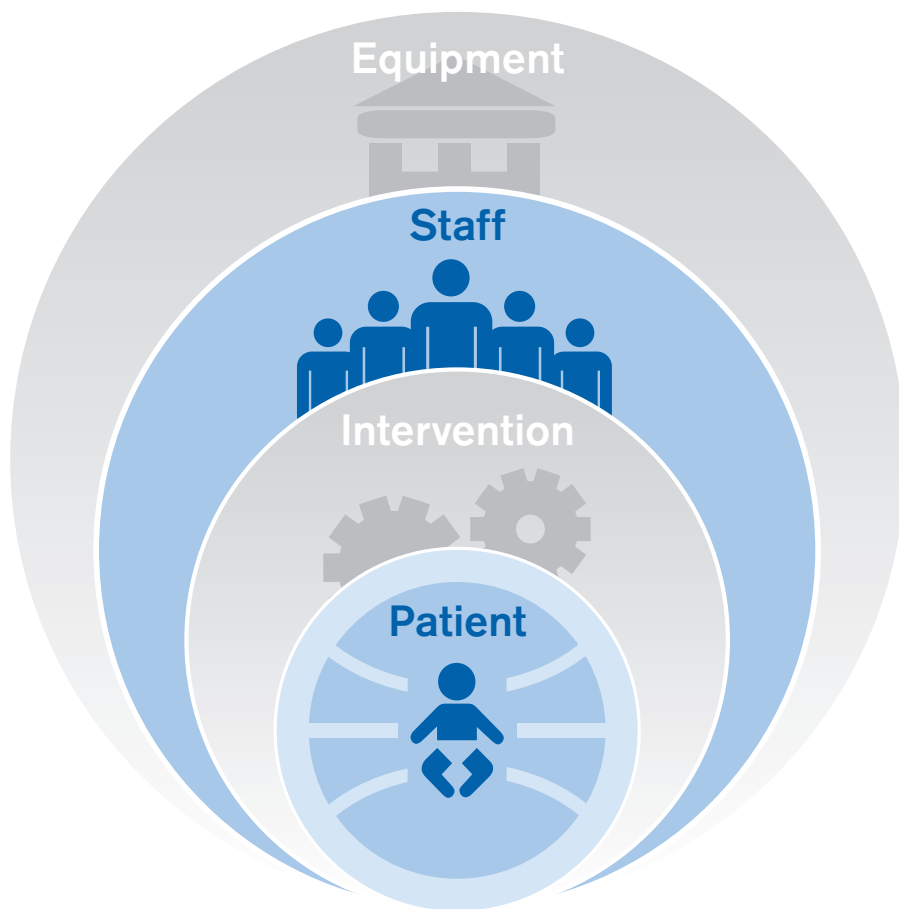
⁴⁾Family-Centered Care: Current Applications and Future Directions in Pediatric Health Care. Matern Child Health J. 2012 Feb; 16(2): 297–305

⁵⁾„Skin-to-Skin Care for Term and Preterm Infants in the Neonatal ICU“, American Association of Pediatrics, September 2015

Workplace Design in Neonatal Intensive Care

When designing a new neonatal intensive care unit or refitting an older ward with more modern equipment, getting it right can make a world of difference. But it can be challenging to meet the needs of all the personnel who walk through the doors every day, including nurses and technical staff members, doctors, and hospital managers. And then there are, of course, the needs of the patients. It's evident that all these needs can range widely.

Starting the planning process with the patient is a proven concept to design sustainable and optimized NICU workplaces. Planning from the inside out puts emphasis on the actual needs of patient-centred care and eliminates rash dimensional or technical restrictions.



EVIDENCE-BASED DESIGN

A large and growing body of evidence attests to the fact that physical environment impacts patient stress, patient and staff safety, staff effectiveness and quality of care provided in hospitals and other health-care settings.⁶⁾ Basing healthcare facility planning and design decisions on this evidence to achieve the best possible patient, staff and operational outcomes is what evidence-based design is all about.^{7, 8)}

FUTURE-PROOF DESIGN CONCEPTS

Dräger offers a wide range of products designed with maximum flexibility in mind. This is true both in terms of daily clinical routines as well as long range planning. Ensuring smooth workflow, superior ergonomics and offering a vast array of custom-built design options, Dräger's portfolio can solve just about any workplace design challenge.

⁶⁾Dijkstra K., Pieterse M, Pruy A.: "Physical environmental stimuli that turn healthcare facilities into healing environments through psychologically mediated effects: systematic review." Journal of Advanced Nursing, October 2006, 56

⁷⁾Ulrich et al.: "A review of the research literature on Evidence-based Healthcare Design", Healthcare Leadership, Whitepaper Series 5 of 5, September 2008

⁸⁾<https://www.healthdesign.org/certification-outreach/edac/about>

Our project competencies at a glance

Since many decades, we have been successfully planning treatment areas in various projects all over the world. We are well acquainted with the local requirements and carry out projects with a high disciplinary knowledge and experience in hospital planning with our own broad portfolio as well as with additional offerings from third-party providers. Inform yourself on our core project competencies that we have gathered over the years.



CONSULTATION

- Workplace design advice
- Process know-how
- Infrastructure solutions
- Infection Prevention concept



3D VISUALIZATION

- 3D tool
- Renderings
- Virtual Reality



PROJECT MANAGEMENT

- Installation expertise
- On-site support
- Logistics management
- 3rd party coordination



WORKSHOPS AND TRAINING

- Dräger Design Center and Showrooms
- Expert knowledge on standards, trends and news



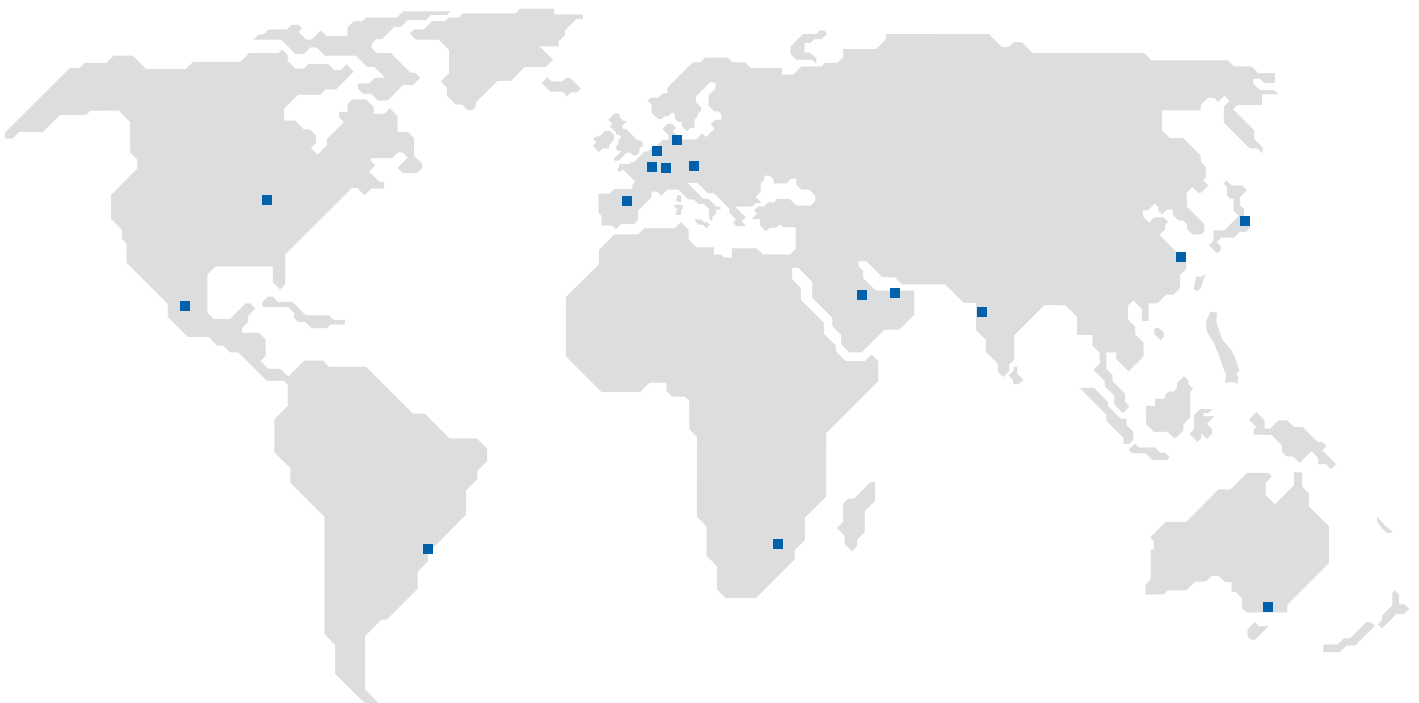
SERVICES

- Maintenance & Repair
- Upgrades/Updates provider
- Original spare parts provider

Dräger Design Centres and Showrooms

The Dräger Design Center in Lübeck and showrooms all over the world have been created to help you design optimal workplaces for your hospital's specific needs. Experience your individually designed future workplace before investing in it.

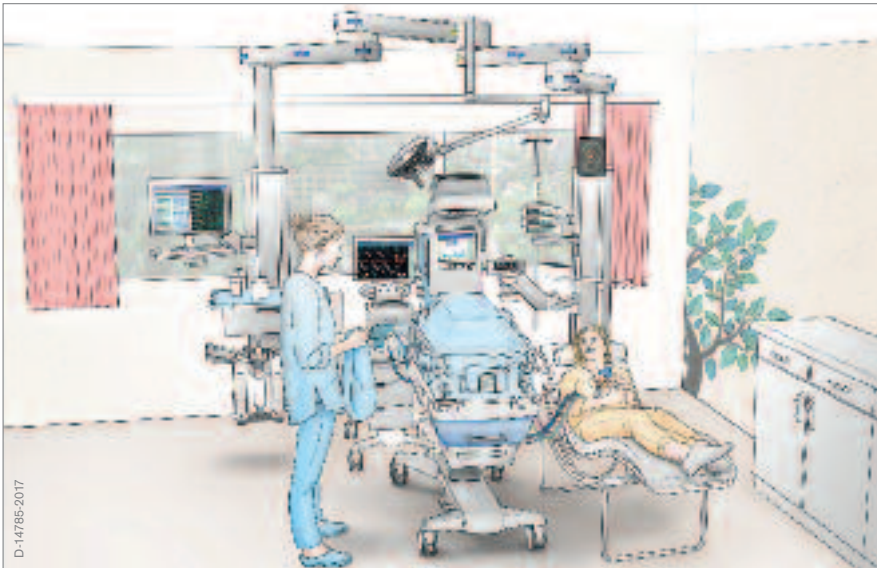
In an 800 m² area, Dräger has mapped every hospital process that affects the care of patients in life-threatening situations – from emergency admissions and the operating theatre to the intensive care unit. In the Dräger Design Center in Lübeck and Dräger showrooms all over the world, users and planners can work together with Dräger experts to share knowledge and experience, plan and design medical workplaces under realistic conditions. In a real-life set up, workplaces can be tested and optimized with regards to ergonomics and workflow efficiency.



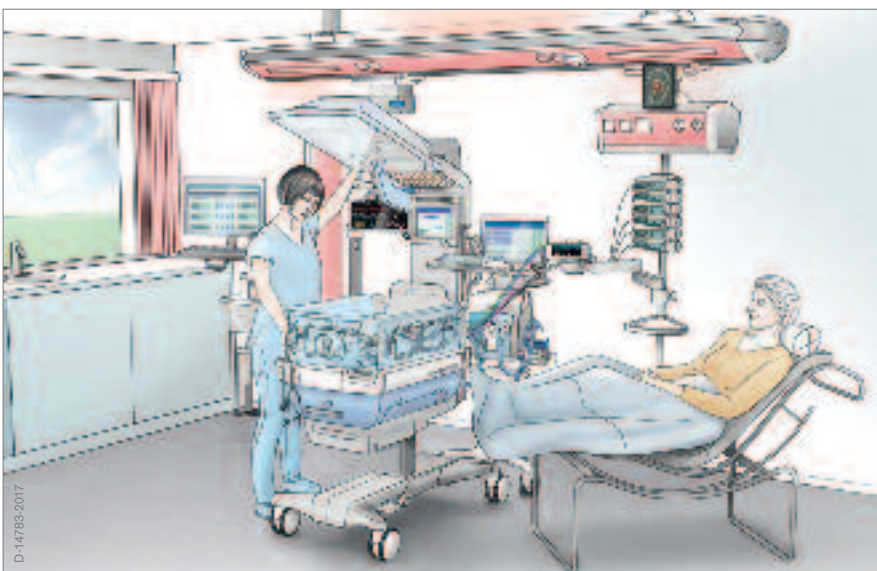
Watch the following video for further information:



Tailored room designs



High acuity workplace setup with arm system, equipped with infusion pumps, monitors and workstation components, Polaris 50 examination light, Noise Display, and Babyleo TN500.



High acuity workplace set up with Babyleo TN 500 and beam system, equipped with infusion pumps, monitors and workstation components.

Aspects of designing a NICU

Complex requirements have to be met when designing neonatal intensive care units and the respective workplaces. Different aspects have to be considered in order to create optimal and value adding room and workplace designs.



NOISE CONTROL

Within the neonatal unit, premature babies are exposed to a variety of stress inducers. The majority of these stress inducers are clearly negative, such as pain. Noise, however, is more complex. Noise is not bad for a baby per se, and could even be beneficial. So when is loud too loud? What is noise and what is a healthy stimulus?

During a stay at a neonatal intensive care unit, the premature baby is exposed to a range of different noise sources. The extent to which exposure to noise has an effect on the baby and the baby's

development has crept into ever increasing focus in neonatal research in recent years. It is now known that excessively loud noise can have a negative impact on parameters such as blood pressure, breathing, heart beat and oxygen saturation.⁹⁾ The baby's sleep is interrupted, which in turn impedes development. The stress also increases energy consumption, which means that fewer calories are available for the baby's growth. Consequently, the American Academy of Pediatrics recommends that noise levels be lowered to a maximum of 45 dBA.

⁹⁾American Academy of Pediatrics, Noise: A Hazard for the Fetus and Newborn. (Stand 13.04.2016)



D-14827-2018

FAMILY INVOLVEMENT

Family members also benefit from pro-developmental care. In this context, the focus rests on two goals. First, the parents should be encouraged in their role as the baby's primary caregivers and integrated into the care process because performing their role, for example by carrying out "parental tasks" such as changing nappies and bathing their baby, is not as easy as it is with healthy neonates. The second goal is to give the family the best possible emotional and psychological support so that they can best cope with the stressful, daunting and often traumatic situation.

LIGHT

Premature babies are sensitive to light. The more premature the baby, the more this applies. At the same time, it is not enough to simply dim the light; this is a complex topic. Nowadays, people are aware that premature babies need a light environment that promotes their development and understand that intense light should be avoided. Several studies have shown that a supportive light environment reduces the level of cortisol, extends sleep duration, stimulates the release of growth hormones, and encourages the early development of a circadian rhythm.^{10, 11)} Three different approaches are found in common practice: first, a cyclical light exposure regimen, usually with a nighttime phase and daytime phase of 12 hours each; second, dimmed lighting so the light is turned down whenever the premature baby is asleep; and third, a continuously dimly lit environment.

¹⁰⁾Graven SN. Early neurosensory visual development of the fetus and newborn. *Clin Perinatol.* 2004, 31(2):199-216

¹¹⁾Rivkees SA. Emergence and influences of circadian rhythmicity in infants. *Clin Perinatol.* 2004 Jun;31(2):217-28



D-14844-2018

ERGONOMICS

The workplace design has a direct impact on the efficiency of clinical procedures and processes. Create ideal workplaces with regards to design, equipment and accessories to optimize workflows and diminish the hospital staff's workload. This enables an increasing quality of care, which can result in better patient outcomes. Considering the ageing nurse population, it is extremely important to create ergonomic workplaces in order to prevent physical harm and increase staff satisfaction.

CLINICAL EFFICIENCY

Optimized Workplaces with a streamlined workflow can reduce the risk of errors and facilitate informed decisions. Our experts help you to design a clinical workplace customized to your needs. Each installation supports optimal access to neonates, workplace ergonomics and safety, as well as fast clean-up and turnaround times.

INFECTION PREVENTION

Premature babies are much more susceptible to infectious diseases than full-term babies. This means that infection prevention is especially important for them. Through our product designs, reprocessing and preparation guides together with a broad range of disposables accessories we help to minimize the risk of infections for neonates and clinical staff.

Dräger Workplace Portfolio

Dräger Workplace Portfolio for Neonatal Intensive Care

Dräger offers a combination of consultation, technology and professional life cycle management services that can help you maximize both the value and efficiency of your neonatal intensive care area with positive effects for your patients and family as well as your staff. A custom-designed workplace that is seamlessly integrated, digitally connected,

and embedded in an ambience concept, which is tailored to the needs of a neonate, can turn your NICU into a true nurturing environment. By streamlining workflows in your NICU with the help of our design experts, we deliver a worthy contribution to enhancing efficiency and thereby managing costs of care.



D-52739-2012

Medical Supply Systems

Ceiling Supply Units (CSU)

With our ceiling supply unit portfolio we offer a specialized solution for each application scenario with regards to workplace ergonomics, flexibility, efficiency, and loading capacity.



D-18660-2010

ARM SYSTEMS

PRODUCT DESCRIPTION

Arm systems offer a flexible, large working radius and allow to combine columns, arm heads and lifting systems. Workplaces can be rearranged in short time in order to adapt to changing requirements and procedures.

LIFTING AND POSITIONING DEVICES

Thanks to its modular design featuring a variety of arm lengths, columns and heads, the Agila®/Movita® family offers the flexibility to position medical devices where you need them within a working radius of up to 6 meters.

The high degree of media panel configuration flexibility as well as a complete

spectrum of workplace components give you the power to equip the system according to your exact needs.

Integrated cable management for the Movita® and lift functions for Agila®/Movita®, further enhance possibilities for an ideal ergonomic workplace design.



MT-5963-2008
Arm System Agila®, compact yet expandable supply unit



D-765-2016
Arm system Agila® EasyLift



MT-6342-2008
Arm System Movita®, high performance supply unit with expanded loading capacity

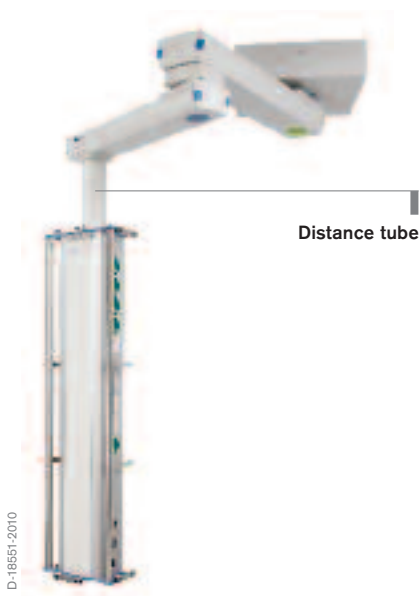
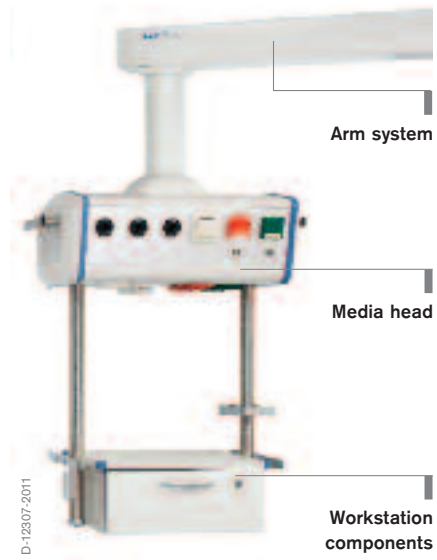
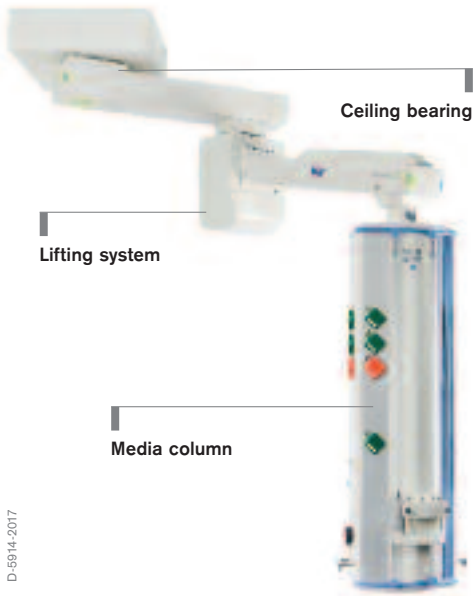


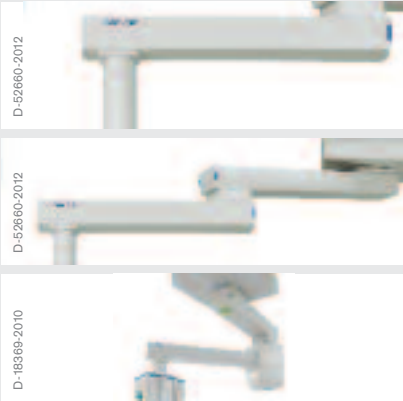
D-764-2016
Arm System Movita® (head)



D-5914-2017
Movita® Lift Strong, enables lifting of heavy devices with a load capacity of up to 300 kg

WHAT IS WHAT?





Single arm system

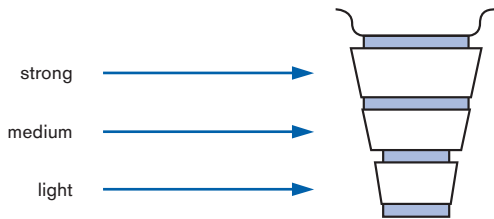
Arm length: 500 mm, 750 mm, 1,000 mm, 1,250 mm
 Load capacity: 120 kg - 270 kg

Double arm system

Arm length: min. 1,000 mm - max. 2,500 mm
 Load capacity: 120 kg - 270 kg

Lift arm system

Arm length: min. 1,000 mm (lift arm) - max. 2,250 mm
 Load capacity: 80 kg - 300 kg



Arm types

For single and double arm systems you can choose between strong, medium and light variant. Depending on type of arm and length the different load capacities are defined.

TECHNICAL DATA

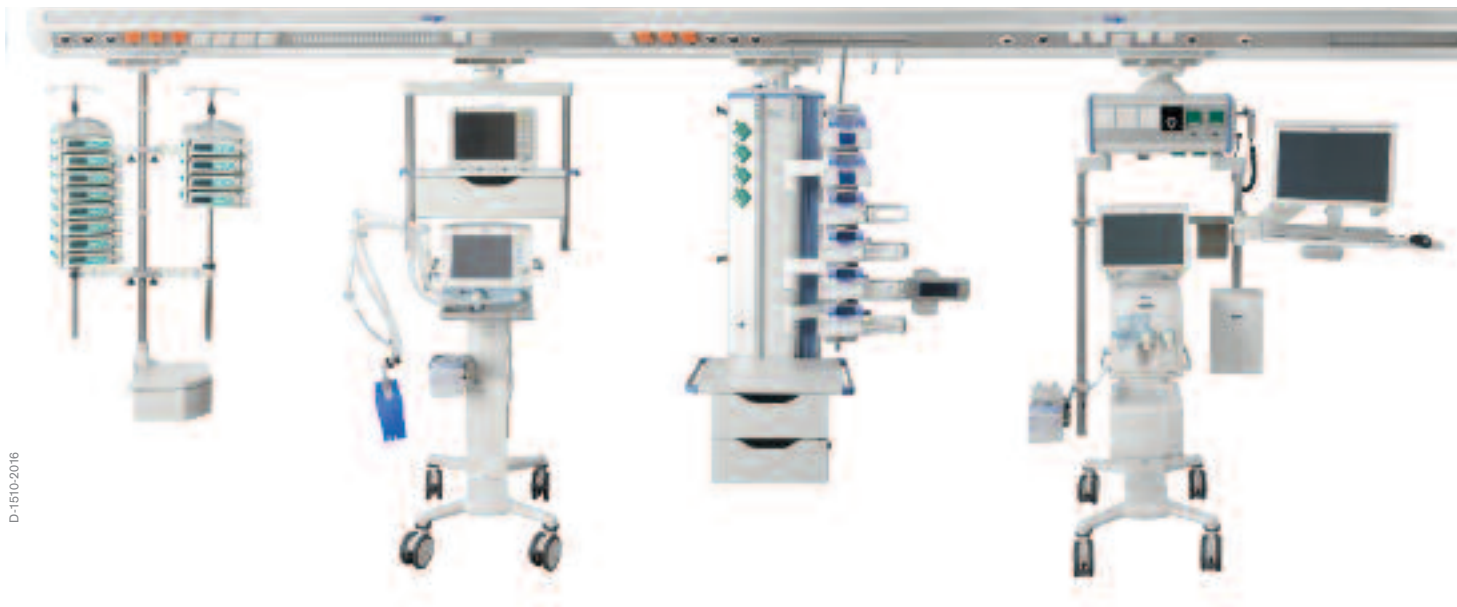
Product	Agila®	Movita®
Load capacity media head	120 kg	120 kg
Load capacity column	160 kg	max. 300 kg
Load capacity Lift express/Lift/Lift Strong	80 kg/120 kg/--	80 kg/180 kg/300 kg
Lift speed	10/20 sec	10/20 sec
Height adjustment	600 mm	600 mm
Media outlets	up to 51	up to 102

BEAM SYSTEMS

PONTA

The bridge to more efficient care. A supply system that meets the workplace requirements more effectively in NICUs, improves patient access and makes your workplace more flexible.

The variable Ponta beam system from Dräger offers four different beam lengths, column and head variants, as well as many workplace components with which you can equip your workstation. Due to the wide range of options, you have the possibility to position medical equipment and devices more efficiently in the workplace.



D-1510-2016

TECHNICAL DATA

Ponta® Beam Supply System

Ceiling mounting

Heavy duty anchors for ceiling tubes
Torque at the ceiling Max. 1,100 Nm per ceiling tube

Ceiling tubes

Available lengths
1,000, 1,500, 2,000 mm
Can be shortened as required

Diameter
110 mm

Maximum load capacity
250 kg each

Supply beam

Recommended clearance height
(under side of beam to floor)

C-shuttle (terminal units in the beam) 1,800–2,000 mm
E plus-shuttle (terminal units in the column/in the head)
2,100 mm*
S plus-shuttle (terminal units in the column/in the head)
2,350 mm*

Beam length
2,200, 2,800, 3,100, 3,500 mm – other lengths are available upon request

Beam width
588 mm

Beam height
212 mm (C), 253 mm (ES plus)

Beam weight
Type C 25.5 kg/m**
Type ES plus 31 kg/m**

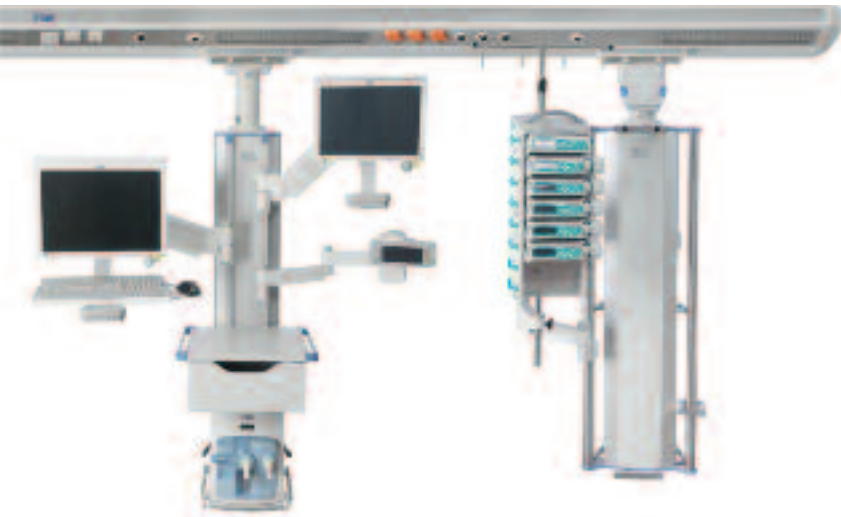
Beam colour
NCS-S-0500-N white powder coated

Colour of installation plate
Standard is anodized aluminum. Optional NCS-S-0500-N, Dräger Munselblue or according to the Colour Line concept.
Other colours.

End-caps length
per 121 mm

*If supplies are also located in the beam then a clearance height is required which permits ergonomic use!

**When combining different shuttles, use highest value.



TECHNICAL DATA

Shuttle	Type C	Type E Plus	Type S Plus
Max. shuttle load capacity	Under each shuttle 150 kg	Under each shuttle 150 kg	Under each shuttle 150 kg
W/O ISO-standard rail	25 × 10 × 294 mm	25 × 10 × 294 mm	25 × 10 × 294 mm
Front side of shuttle (when using e-brakes)	(H × W × L)	(H × W × L)	(H × W × L)
Max. rail load capacity	10 kg	10 kg	10 kg
Linear movement	Complete length of the beam/ beam system	From central point (Positioning as required) ± 550 mm (total 1,100 mm)	From central point (Positioning as required) ± 550 mm (total 1,100 mm)
Brakes	Mechanical linear travel and rotational movement	Pneumatic or electromagnetic for linear movement Friction for column or head Optional pneumatic brake for column or head	Pneumatic or electromagnetic for linear movement and swivel arm Friction for column or head Optional pneumatic brake for column or head
Max. load***	Equipment carrier pole 60 kg Equipment carrier rack 130 kg	with Agila® head or column or Movita® head or column: 120 kg	with Agila® head or column or Movita® head or column: 100 kg
Rotational movement	Equipment carrier 170°	330°	Swiveling arm 330° (Length swiveling arm 400 mm)

***Maximum load that can be carried on the supply head or column



D-480-2017

Wall Supply Systems

Wall supply units are both economical and compact. They offer scalable functionality that can fit any room and any budget. We differentiate between horizontal and vertical wall supply units. As the devices and media panels come in a multitude of design and lighting options, spaces can be arranged comfortably, thus providing a healing environment.



D-52657-2012

HORIZONTAL WALL SUPPLY UNITS

LINEA*

The wall supply units in the Linea® family can be configured in different ways for the most varied care requirements. They can be perfectly combined and enable a consistent design concept that goes beyond the individual room. A large selection of decors and colours, as well as various lighting options, also contribute to providing a healing environment. Optional standard rails and tubes facilitate an ergonomic workstation design. The Linea® I and Linea® Vertica represent a selection of the Linea® family particularly suitable for the Intensive Care Unit.



Linea® I



Linea® Vertica

*Made by V.T.S. Vision Technology Systems GmbH
Arnsberg, Germany

TECHNICAL DATA

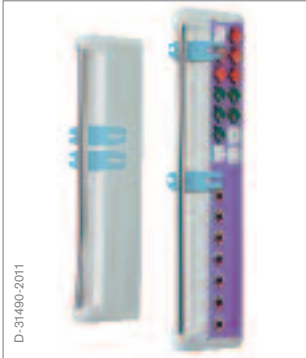
	Linea® I	Linea® Vertica
Width	freely selectable	660 mm
Depth	135 mm (1 media duct) 135 mm (2 media ducts) 135 mm (3 media ducts)	110 mm
Height	174 mm (1 media duct) 275 mm (2 media ducts) 385 mm (3 media ducts)	Any desired height from 1 m to 4 m
Lighting	No lighting; (only available in other configurations) Optional integrated night light in duct	Night light (bottom)
Accessories	Dräger accessories for standard rails	Dräger accessories for standard rails and 38 mm equipment poles
Rows of outlets	1 / 2 / 3	One row at each side (left and right) plus front can be equipped as desired
Outlet spacing	Ensure there is at least 200 mm between gas terminal units (for flammable or oxidizing gases) and electrical outlets. The minimum distance between two electrical outlets is 75 mm and between two gas outlets 100 mm	There is at least 200 mm between gas terminals (for flammable or oxidising gases) and earthed power sockets. The minimum distance between two earthed power sockets is approx. 70 mm and between two gas terminals approx. 100 mm
Components	Electrical sockets in various colours, with or without indicator light and in a variety of country standards, equipotential bonding pins, gas terminal units for gases, low-voltage devices such as nurse alert, RJ-45 data jack, telephone connections, etc.	Electrical sockets in various colours, with or without indicator light and in a variety of national standards, earth pins, gas terminals for medical gases, low-voltage devices such as nurse call, medical RJ45 data ports, telephone sockets, etc.
Wall mount	Via dowel pin on the wall; torques of max. 250 Nm per metre of duct; optional side or back media feed	285 kg/m, shear force per stud bolt (M10) 500 N.
Surface	17 standard RAL colours or a variety of wood decors	17 standard RAL colours for equipment plates; 17 standard RAL colours, a variety of wood decors or a combination of both for front plates
Load capacity	Standard rails support a max. of 50 kg per metre	Equipment rail: max. 50 kg per meter / 38 mm tube max. 100 kg per tube
Medical Device	Complies with MDD (Medical Device Directive) Medical Electrical Devices IEC 60601-1 and IEC 60601-1-2, Medical Supply Units ISO 11197	Complies with MDD (Medical Device Directive) Medical Electrical Devices IEC 60601-1 and IEC 60601-1-2, Medical Supply Units ISO 11197

VERTICAL WALL SUPPLY UNITS

GEMINA®DUO

Whether in the intermediate care ward, the emergency department, or the ICU: the Gemina®DUO provides a range of features and options to help you create an efficient, patient-friendly workstation.

Three versions are available: A Gemina®DUO serves one bed, a central Gemina®DUO unit serves two beds and two Gemina®DUO units serve one bed. This covers the full range of possible applications. Several integrated lighting options complete this impressive, economical package.



TECHNICAL DATA

COLUMN

Dimensions (L × W × D)	1,500 × 240 × 366 mm incl. caps
Max load	150 kg
Useable (38 mm) pole length	1,300 mm

INSTALLATION PLATES

Material	Anodised aluminium (standard)
Mounting capacity	
Based on Dräger DIN/German standards	One-sided: max. 30 (14 gases) Two-sided: max. 56 (20 gases)

CABLE MANAGEMENT

Capacity single-sided:	6 hoses, external diameter 13.5 or 18 cables, diameter 8 or 3 hoses + 10 cables or 4 hoses + 7 cables
Double-sided:	12 hoses, external diameter 13.5 or 36 cables, diameter 8 or 6 hoses + 20 cables or 8 hoses + 14 cables

LIGHT: COLUMNS

Indirect light / Night light	LED (for switched and for dimmed, with and without DALI) lamp 5.5 W, colour temperature 4000 K (neutral white)
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OTHER

Console swivel range	112°
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STANDARDS

In compliance with the medical device directive 93/42/EEC, class IIb
Medical electrical devices – Part 1 IEC 60601-1 – Part 1-2 IEC 60601-1-2
Medical supply units ISO 11197
Light options in general supporting DIN EN 12464-1 and DIN 5035-3. Data for planning software on request.
Installation instructions 9039804
Catalogue of workstation components for supply units 9048440



D-530501-2012

Medical Examination Lights and Display holders

To achieve the best possible results, it's essential to have the right working conditions. Medical lighting and documentation systems from Dräger help you reach your goals by providing you with advanced yet economical solutions for a wide variety of clinical applications.



D-530501-2012



D-44002-2016

MEDICAL EXAMINATION LIGHT

The Dräger VarioLux® offers highly efficient and variable intensity examination light and was specially designed for use in neonatal intensive care settings. Made for single-handed operation, it features adjustable colour temperature settings as well as a dimmer function.



Medical examination light VarioLux®

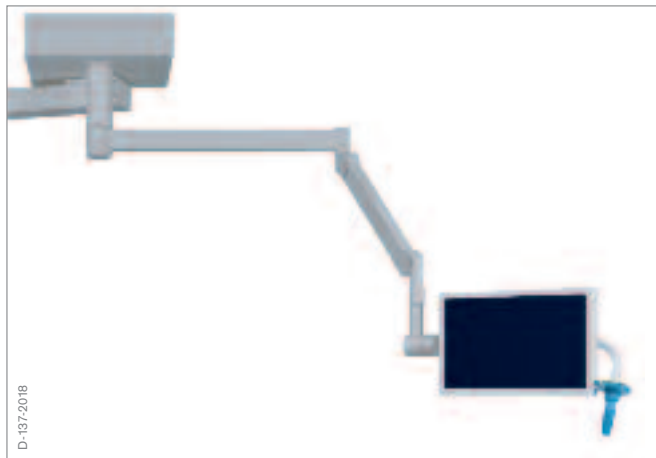


TECHNICAL DATA

Product	VarioLux® rail mounted examination light
Weight	1.5 kg (3.3 lbs)
Electrical values	100 – 240 V, 50/60 Hz
Max. illumination intensity E_c at 0.5 m	30,000 lx
Dimming levels	30,000 lx, 24,000 lx, 18,000 lx, 12,000 lx, 6,500 lx
Light field diameter d_{10} at 0.5 m	20 cm (7.9 in)
Light field diameter d_{50} at 0.5 m	9 cm (3.5 in)
Color temperature adjustable	Cool white (blue) 4,700 K, Neutral white (white) 4,100 K, Warm white (red) 3,500 K
Min. service life of bulb (LEDs)	> 50,000 h
Color reproduction index	Ra = 96 (at 3,500 K), R9 = 89 (at 3,500 K)
Max. radiant power at 0.5 m	105 W/m ²

DISPLAY HOLDER

Many applications now require more than one display. That's why Dräger now offers a display mount that lets you position up to two displays (19" to 32") on a single spring arm. The side handle is adjustable for optimal workplace ergonomics, including a solution for both right- and left-handed personnel and an adjustable operating angle. This system also features cable management for enhanced hygiene and less clutter.



Display holder

TECHNICAL DATA

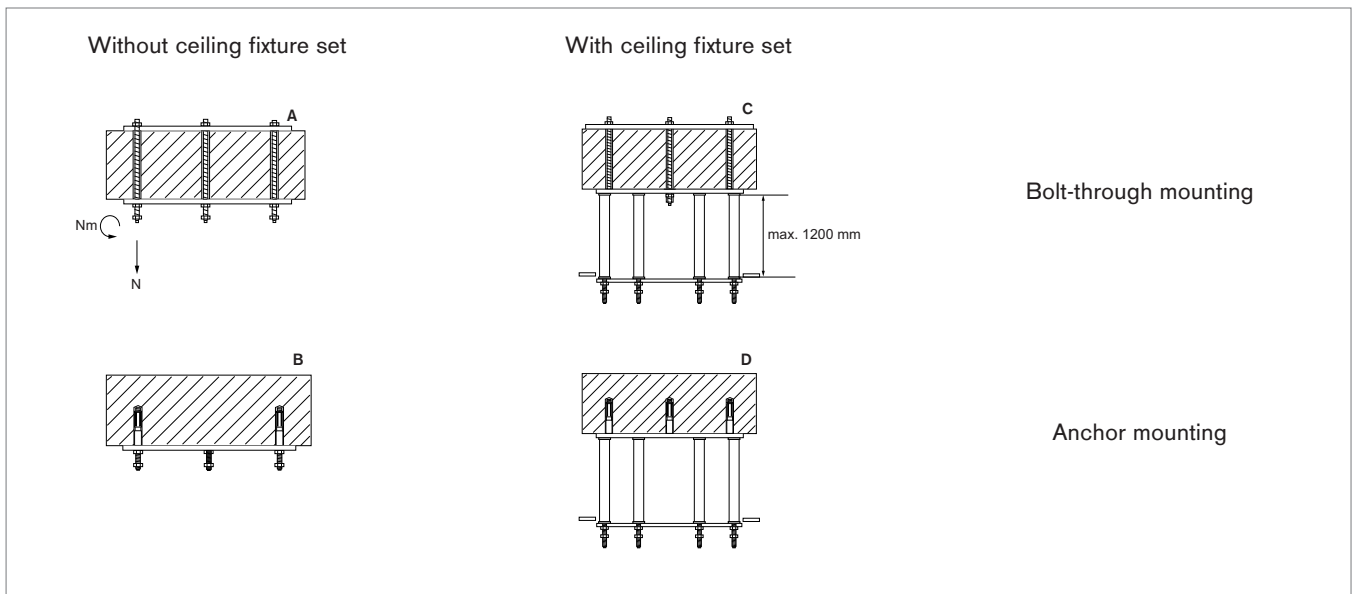
Product	Display holder
Description	Display arm at central axis
Display sizes	19" to 32"
Display quantity	1 or 2
Fixation	at central axis of OR light or separate



Ceiling Fixtures

PRODUCT DESCRIPTION

Our universal ceiling fixation supports the installation of the ceiling supply units Agila® and Movita. They are available for anchor (fig. B + D) and bolt-through (fig. A + C) mounting. The ceiling supply unit can be attached directly under the concrete ceiling (direct mounting – fig. A + B). A variable fixture kit allows mounting up to 1,200 mm under concrete ceiling in order to bridge the space between it and a false ceiling (fig. C + D). A media flange, located between raw ceiling and false ceiling, offers enough space for connecting supply voltage, medical gases, vacuum and data cables. The installation manuals are included in the delivery.



CEILING FIXTURES FOR SUPPLY UNITS

PLANNING GUIDELINES

The Dräger ceiling supply units are tested in combination with these ceiling fixtures. The certification will become invalid, if the supply units are installed in combination with a non-Dräger ceiling fixture.

The ceiling mount must meet the following criteria:

- 12,500 Nm torque at lower end of the fixation construction
- 9,000 N tensile force at the ceiling

If architectural constraints do not allow a Dräger ceiling mount, an alternative mounting solution can be used. A project-specific certificate confirming such constraints is mandatory. The complete functionality of a Dräger ceiling supply unit can not be guaranteed if the above conditions are not met. In such cases, all approvals are void.

Available for:

- Anchor mounting: Anchor mounting is possible if the ceiling is constructed with at least 200 mm thickness, and consists of reinforced or un-reinforced concrete with a minimum quality of C20/25 according to EN 206-1:2000.
- Bolt-through mounting: Bolt-through mounting is required if the ceiling thickness is less than 200 mm, or the minimum quality of concrete is less than C20/25 according to EN 206-1:2000. For this installation it is necessary to have a static calculation or certificate which confirms the bearing capacity of the ceiling.

TECHNICAL DATA

Product	Ceiling fixtures
Span intermediate ceiling distance	up to 1,200 mm
Max. torque	12,500 Nm
Max. tensile force at the ceiling	9,000 N
Hole pattern	Ø 470 mm

TYPES OF CEILING COVERS



Ceiling hood (height: 170 mm)



Flat cover (height: 2 mm)

SINGLE/DOUBLE/TRIPLE CSU

There is a Dräger ceiling fixture solution for every application. Single, double and triple arm options are available.



Single CSU



Double CSU



Double CSU with third arm

OPTIONS

Single

CSU
Examination light
Display
Patient lift

Double

CSU/CSU
CSU/Examination light
CSU/Display
CSU/Patient lift

Triple

CSU/CSU/Examination light
CSU/CSU/Display
CSU/CSU/Patient lift

CEILING FIXTURES FOR LIGHTS/DISPLAY ARMS

PRODUCT DESCRIPTION

The Dräger ceiling fixation supports the installation of the lights and display holder (at central axis). The light arm can be attached directly to the concrete ceiling (direct mounting). The distance tube allows mounting at different heights of up to 1,200 mm under concrete ceiling, in order to bridge the space above false ceiling. The installation manuals are part of the delivery.

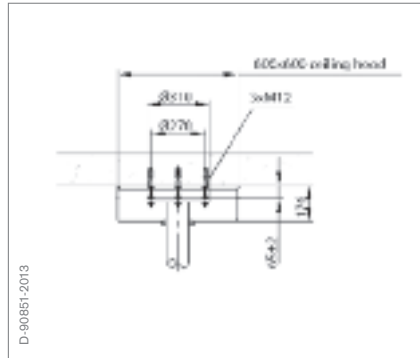
MOUNTING VARIANTS

Direct mount

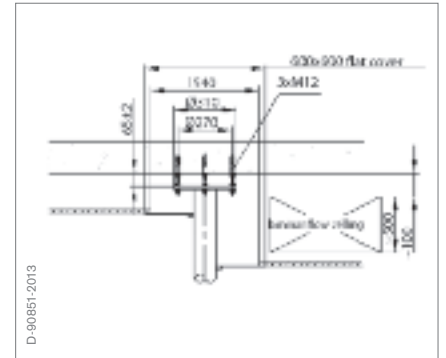
This system is recommended as a direct mount or for use with a false ceiling up to a distance of 600 mm between concrete and false ceiling or in combination with a laminar flow system. The suspension tube is available in five standard lengths (220/460/630/800/1,000 mm). For service purposes, it is to be considered that the electrical components are installed in a switch box near the NC (max. 40 m).

With distance tube

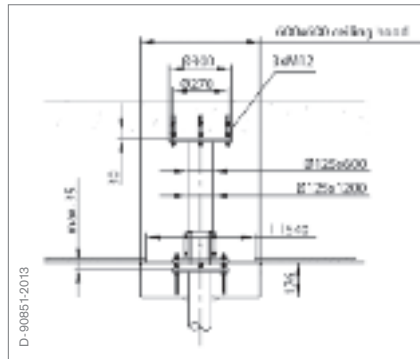
This system is recommended for use at a distance > 600 mm between concrete and false ceiling or in combination with a laminar-flow system. The distance tube is available in two standard lengths (600/1,200 mm). For service purposes, it is to be considered that the electrical components are installed in a switch box near the NC (max. 40 m).



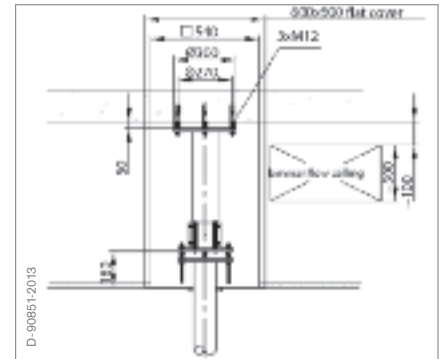
With ceiling cover



With flat cover With laminar flow ceiling



With ceiling cover



With flat cover With laminar flow ceiling

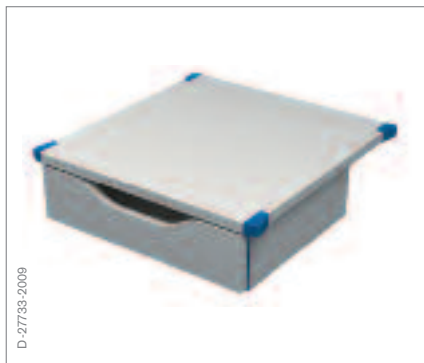
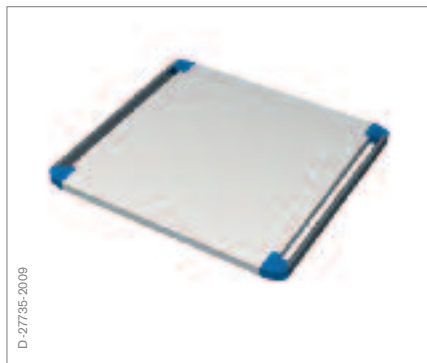


Workstation Components

In order to enable ergonomic workplace design, Dräger offers a wide range of freely configurable workstation components for user-friendly positioning of medical devices. Workplaces in emergency units, operating rooms, intensive care units and in other medical areas can be tailored to the specific needs of medical staff thus enabling patient-centred care.



SHELVES



Our shelf portfolio offers a wide range of options. Shelf size, the number of standard rails and drawers can be selected as needed.

The shelving and drawer system is a comprehensive building block featuring more than 1,000 solutions. These can be configured according to the customer's needs. This modular system makes it possible to design the workstation optimally and entirely according to personal requirements. The configuration of shelves and drawers using this modular system is based on the seven selected criteria:

- Selection of the connection element to the supply unit
- Selection of the desired shelf size
- Selection of the rail system
- Selection of a drawer or a documentation module
- Selection of the cable management system
- Selection drawer light
- Selection of control elements



Exemplary setup

ARM TYPES



Double swivel arm for 25 mm pole (infusion), mounted on a 38 mm pole

INFUSION ARMS

For all infusion arms, a wide variety of options to choose from. Arms are available as single or double swivel arms and come in lengths of 200/300/400 mm. All arms come with adjustable friction brakes (ball bearings) and integrated cable management.



MONITOR ARMS

Monitor arms come in a wide variety of configurations. The arms are available as a lift arm with or without an additional swivel arm and with or without keyboard holder. Swivel arms come in lengths of 200/300/400 mm. All arms are equipped with adjustable friction brakes (ball bearings) and integrated cable management.

CABLE MANAGEMENT

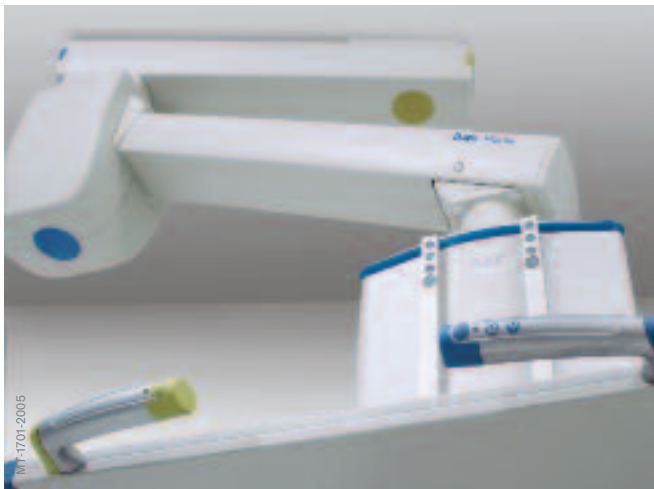


D-268305-2009

Cable channel

The integrated cable management system, consisting of cable boxes and channels, assists in improving workplace organization by eliminating seldom-used cables from the work area. Furthermore, hygiene is improved by a reduction of contamination risk and reduction of necessary cleaning and disinfection times.

CONTROL CONCEPT



107-1701-2005

Handles

The interpretation of functional symbols can be problematic for users. The operating concept of your Dräger ceiling supply units with braking and/or height adjustment functions recognizes this. It supports the user's cognitive motor skills. Contrasting colour codes on grips, keypads, and swivel arm mounts enable quick, intuitive, and visual assignment of control functions for pneumatic brakes and height adjustment. Colour concepts such as these have already become established in other industries.

ADDITIONAL COMPONENTS & ACCESSORIES

In addition to the components mentioned above, many others are available. For more information please order our accessories catalogue (90 67 713) at your local Dräger contact person.



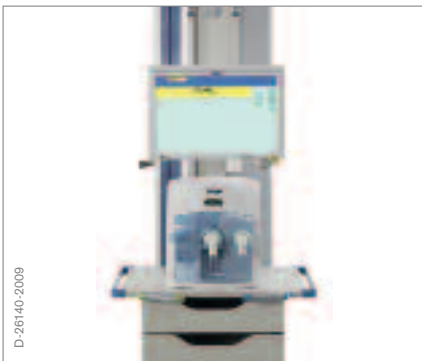
D-551-2017



Neonatal Ventilation Workstations

Dräger delivers an all encompassing solution that allows for a continuous flow of information, supports patient safety best practices, and decreases the risk of errors by the intuitive operation across the entire neonatal and pediatric area and beyond. Our goal has always been to provide highly sensitive ventilation that keeps pace with a patient changing needs.

VENTILATION



CSU with V500* on a shelf



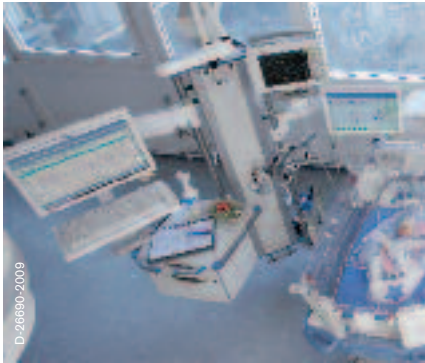
CSU with V500* mounted on the front rails



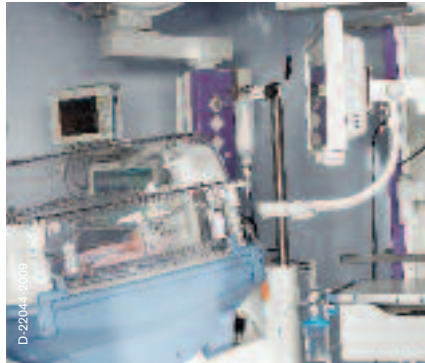
V500* mounted on a 38 mm pole

*Infinity Acute Care System Workstation Critical Care.

MONITORING



C700 and Delta mounted on front rails on the same side

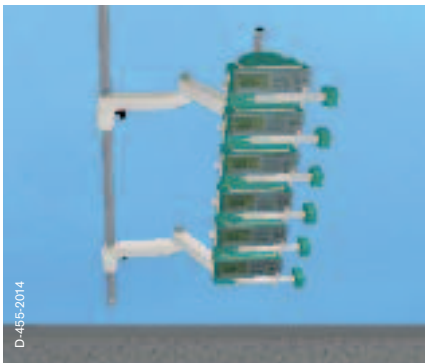


C700 and Delta mounted on front rails on different sides

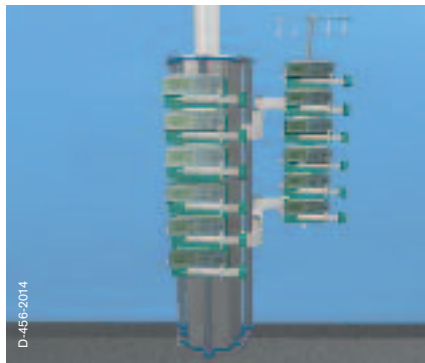


IACS system consisting of C700 and M540

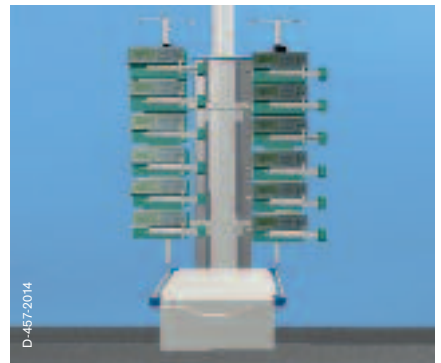
INFUSION



Infusion rack on M26 arm system



Infusion rack mounted on Agila® column tube



Infusion rack mounted on infusion set AS1

SUCTION

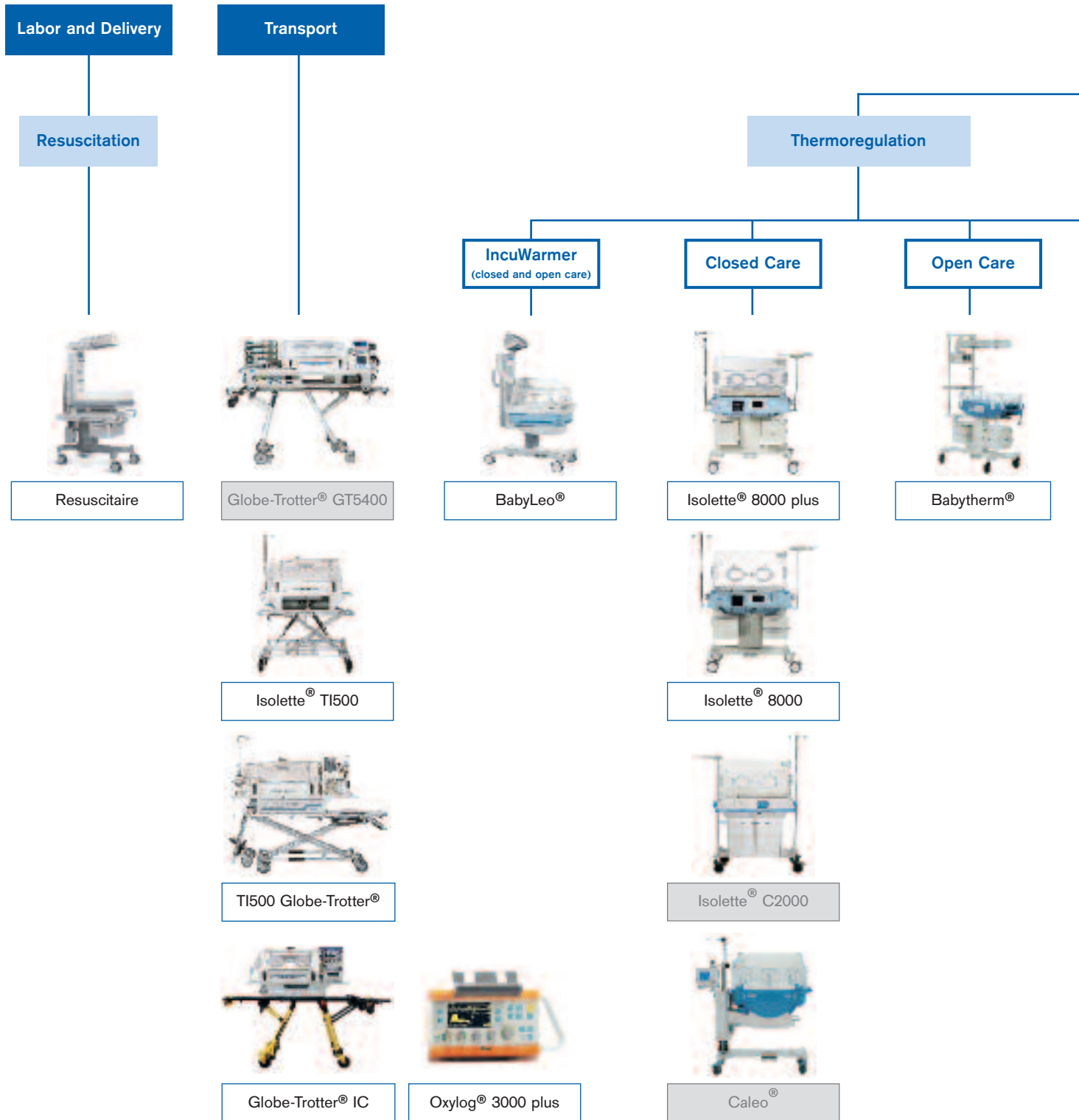


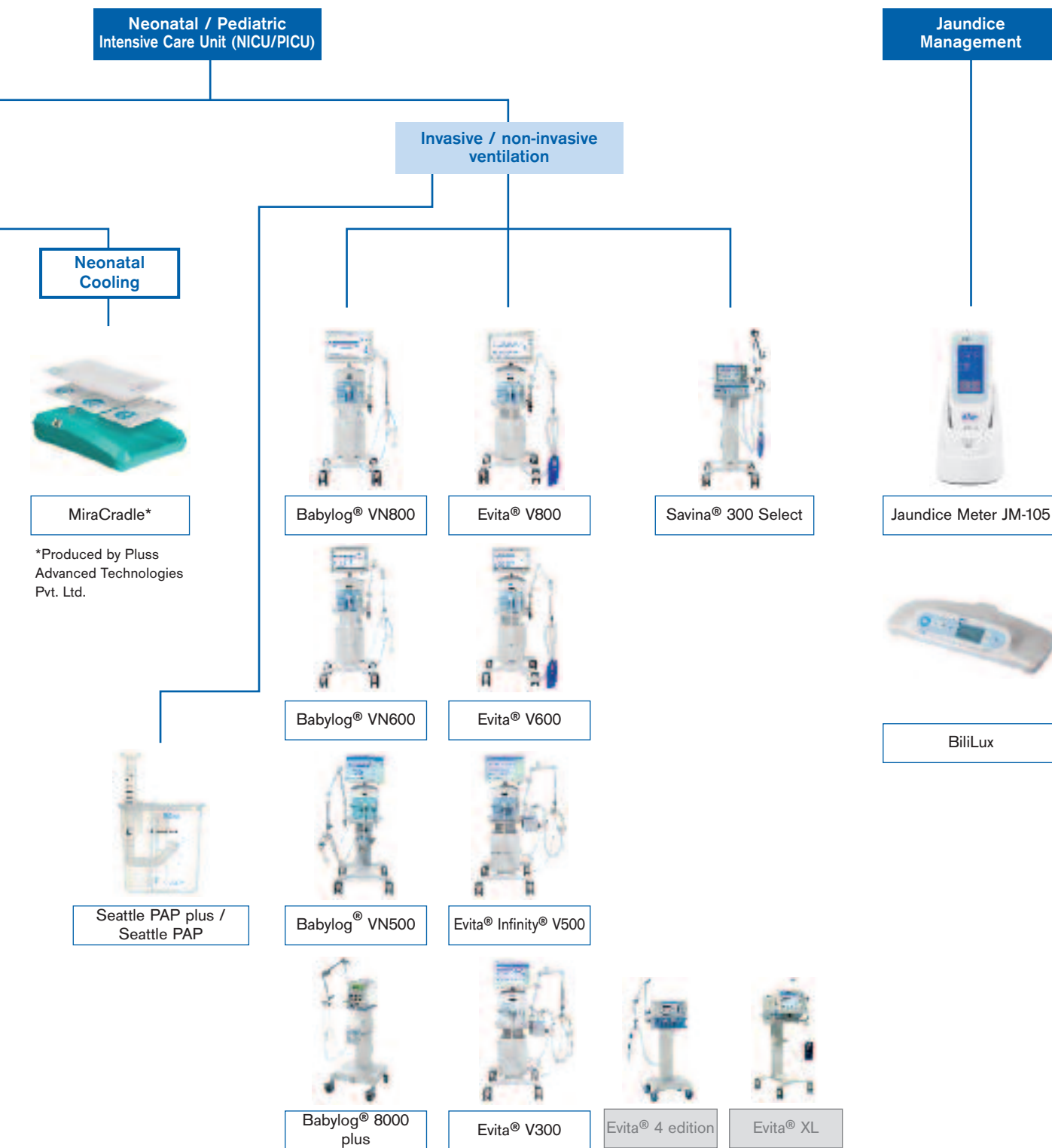
Infusion rack mounted on infusion set AS1



Workstation – Endotracheal suctioning

Overview Neonatal and Pediatric Care





VENTILATORS

Smart Pulmonary View

Flexible transport and backup solution

Powerful High Frequency Oscillation

Intuitive user interface with colour touch screen

Non-invasive nasal CPAP and oxygen therapy



BABYFLOW® PLUS – ACCESSORIES FOR NON-INVASIVE RESPIRATORY SUPPORT

The BabyFlow® plus respiratory support system was designed based on the results of state-of-the-art technology (Computational Flow Analysis) to minimize the imposed work of breathing for the patient. The streamlined adapter head optimizes the flow distribution.



BabyFlow® plus



D-2289-2014

NC PLANNING

DRÄGER WORKPLACE PORTFOLIO

Accessories

Whether for patient monitoring, care and treatment of neonates, anesthesia, intensive care, the emergency department or on the ward: each original accessory from Dräger doesn't just fulfil all the official quality standards. We also measure our accessories against our own strict Dräger quality standards., Dräger helps comply with latest clinical guidelines.

WARMING THERAPY



D-21577-2017

E.g. Mattress SoftBed



MT-327E-2005

E.g. Warming mattress TransWarmer®



D-7475-2016

E.g. Skin temperature probes

WORKPLACE EXAMPLES

VENTILATION



BabyFlow® plus



Breathing circuits



Masks



Breathing system filters and HMEs



CO₂ cuvettes



Intubation kits

SENSORS



E.g. Neonatal flow sensor

MONITORING



E.g. Masimo® sensors

WARD EQUIPMENT



E.g. VarioVac
Variety of versions for different aspiration, drainage or suction applications.



D-7566-2009

Developmental Care Accessories



D-33509-2009

Incubator cover



D-33511-2009

Positioning aid Hug it



D-33512-2009

Nesting



D-33514-2009

Small pillows



MT-0092-2008

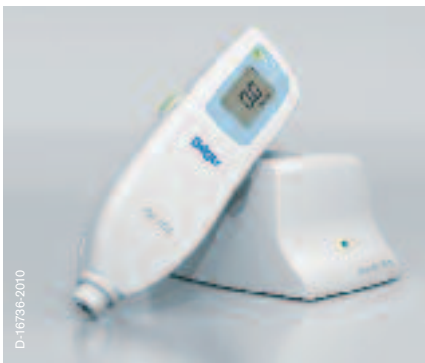
Towel doll Cally



D-3860-2016

Jaundice Management

8 out of 10 babies have signs of jaundice and approx. 10% of them need phototherapy. Dräger offers solutions which not only improve the jaundice management process for the caregiver, but which are also gentle for the baby. With our non-invasive screening and effective therapy devices, we always have the baby in focus. At risk patients can be identified early with minimal stress for the baby. The appropriate treatment reduces readmission rates. All together, Dräger helps comply with latest clinical guidelines.



D-16736-2010

Jaundice Meter JM-103



D-86397-2013

Jaundice Meter JM-105

BILILUX LED PHOTOTHERAPY LIGHT



D-16206-2017

The BiliLux is a compact and lightweight LED phototherapy light system for the treatment of neonatal jaundice. It provides superior phototherapy performance, individualised therapy with electronic documentation capabilities and the flexibility for seamless integration into practically every workplace.



D-12195-2016

BiliLux LED Phototherapy Light

PATIENT MONITORING

Our patient monitoring solutions are designed to support efficient workflow, enhanced ergonomics and ease of use. In addition, patient safety is improved through continuous patient surveillance without interruption in and out of the OR.



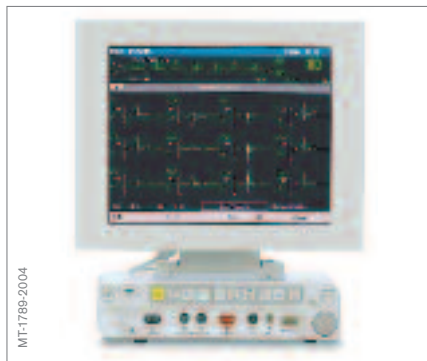
Infinity® Acute Care System
Designed to meet the needs of all care areas both at the bedside and during transport.



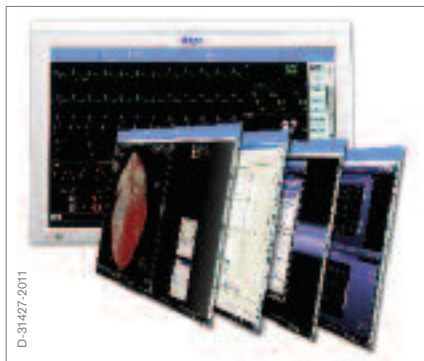
Infinity® M540
Follows the patient throughout the entire care pathway for seamless patient monitoring.



Infinity® Delta and Delta XL
Provides continuous monitoring and the same level of care at the bedside and during transport.



Infinity® Kappa
Designed with a built in power supply for fixed monitoring at the bedside or in the OR.



Infinity® Explorer Software
Integrates real-time data from Infinity® monitors and a wide variety of clinical applications at the point of care.



Vista 120 Family
Delivers essential monitoring capabilities at an exceptional value.



D-12810-2016

Gas Management Systems

Medical gases play a central role in protecting patient's lives in various clinical applications. Dräger Gas Management Systems (GMS) are designed to safely and efficiently manage a hospital's gas supply. Dräger offers complete gas supply systems which include all necessary components and distribution pipelines.

BECAUSE EVERY BREATH IS VITAL

Medical gases (oxygen, compressed air, nitrous oxide, and carbon dioxide) and vacuum must be safely and reliably available at all times. We deliver tailor-made system solutions, so that hospitals always have the right gases available in the right places, quantities and quality.

EVERYTHING FROM ONE SOURCE

From planning consultation to assembly and subsequent after-sales service, we provide complete services from one source regardless of whether a system is newly installed, has to be enlarged or renovated. With over 50 years of experience in planning and manufacturing of Gas Management Systems Dräger is one of

the market and technology leaders in Germany as well as in the international market.

Our systems, respectively set up and maintained by Dräger installation specialists and Dräger Service technicians, offer premium reliability and safety, above-average durability, and meet or even exceed the latest quality standards.

MEDICAL AIR SYSTEM



D-12858-2016

Compressed Air System

Turn ambient air into compressed air that is used throughout the hospital e.g. for patient ventilation thus having a direct impact on patient safety.



D-24051-2015

Medical Air Ensure

Modern and reliable conditioning unit that purificates air to medical grade air that is safe for respiration.



D-105961-2013

Medical Air Guard

Monitors thresholds for hazardous contaminants ensuring the purity of the vital gases.

CYLINDER MANIFOLDS



D-9886-2009

Gas Control Station

Provides medical gases such as oxygen and carbon dioxide for medical applications based on a scalable platform concept.

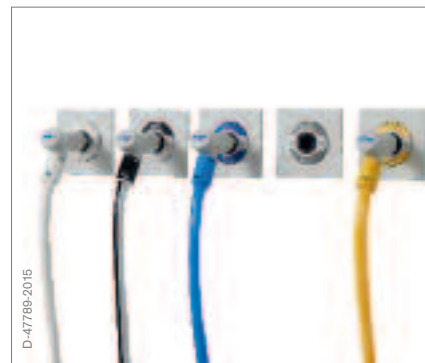
GAS DISTRIBUTION



D-16746-2010

Distribution System

Pipeline network delivering the medical gases safely throughout the hospital in accordance with international standards.

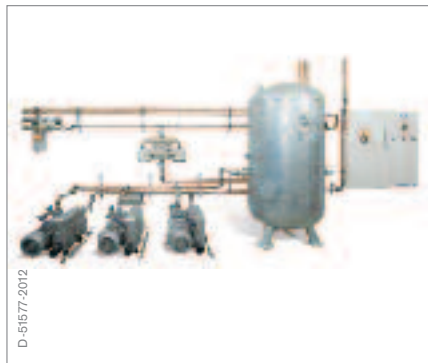


D-47789-2015

Terminal Units

Secure solution to provide medical gases where they are needed throughout the hospital.

VACUUM SYSTEM



D-51577-2012

Vacuum plants

Provides indispensable vacuum for various medical applications like wound area or bronchial suction.

AREA CONTROL UNITS



MT-0001-2006

Area Control Unit

Monitors gas pressures for a certain hospital area and provides fast access to shut-off valves.

ALARM MANAGEMENT SYSTEM



D-796-2016

Gas Communication Cockpit 1000

Get an overview on the status and receive alarm signals of the entire gas supply system of the hospital.



Dräger Services

When it comes to the safety of patients, purchasing innovative medical technology is merely one element of a whole. A ventilator, for instance, can sustain life only if it functions with absolute reliability. We work hand in hand with you to ensure a consistently high quality of supply. And we want to keep it that way. This is why our services provide you with more than just simple inspections, maintenance and repairs.

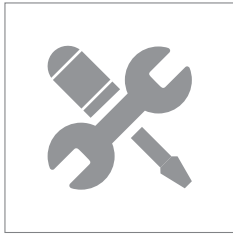
WE WANT TO KEEP YOU UP TO SPEED

Our comprehensive consulting and support services in medical technology ensure maximum performance for your company. We work with you to understand the needs of your business, so as to provide you with the right services to achieve your objectives. With our experience, flexibility and uncompromising quality standards we are unfailingly by your side supporting your pursuit for excellence.

WE ARE ALWAYS HERE FOR YOU

3,200 helping hands worldwide. Our extensive service network includes around 1,600 certified, highly qualified and regularly trained medical technicians in 190 countries. This way we guarantee rapid assistance in the shortest possible time while always taking into account basic country-specific conditions.

AN OVERVIEW OF OUR SERVICES



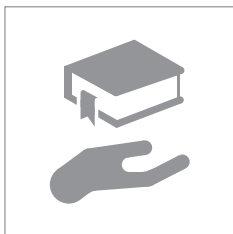
PRODUCT SERVICE

Our manufacturing services provide for reliable medical technology and contribute to protecting the value of your investments over the long term. They cover installation, inspection, maintenance, repair and remote diagnosis.



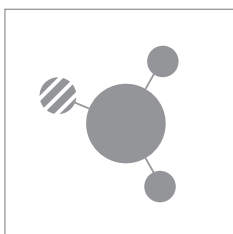
FINANCE SERVICE

Together with you, we systematically analyze your specific requirements as well as continuously assessing and evaluating your needs. The result: a personalized offer for innovative medical technology with intelligent financing solutions and Private Finance Initiatives to you.



TRAINING

For over 40 years we have been developing our training courses to address your questions and the challenges of everyday clinical work. We have an appropriate seminar for all medical staff members which we adapt to your own personalized learning approach.



MULTIVENDOR SERVICE

Are you seeking more budget security, greater transparency and less complexity? Then our Multivendor Service is just what you need: only one service agreement and one contact person for your entire technical equipment.



SYSTEM SERVICE

The connection of optimally integrated patient monitoring and/or IT-solutions with hospital information systems represents complex challenges. Our System Service resolves these issues – from planning to smooth implementation, and even includes employee training.



Workplace examples

Workplace Examples

The following pages will help you develop a deeper understanding of various workplace designs. The detailed drawings and pictures shown in the next section can serve as a starting point for you

own design concepts. Combine elements of two or more examples to develop the best possible solution for your client.



D-12386-2018

Planning a NICU workplace

GENERAL

What do we mean by left and right side?

- As seen from the foot end of the incubator (technician)
- As seen from the patient (medical staff)

The incubator:

- Think about the size
- Open care or closed care
- Connections required?

Additional medical devices:

- Medical cart, footprint approx. 780 × 600 mm
- Mobile ultrasound, footprint approx. 600 × 600 mm
- Dialysis machine, footprint approx. 650 × 650 mm
- Mobile x-ray machine, footprint approx. 1800 × 900 mm
- ECMO device, footprint approx. 600 × 600 mm



NWPD_Key_Visual

ELEMENTS OF THE INFUSION SIDE

- How many infusion pumps are needed?
- How they should be mounted
(arm system or directly on the column)?
- Syringe pumps are needed, how many?
- How they should be mounted
(arm system or directly on the column)?
- Feeding pumps are needed, how many?
- How they should be mounted
(arm system or directly on the column)?
- Fluid bags?
- Storage for disposables
- Storage for nappy's
- Holder for medical gloves (size S/M/L)
- Working surface
- Line routing to the infant
- Endotracheal suction (vacuum, air, electric)
- Services like electric-, gas- and data outlets
- Nurse call
- PDMS (height adjustable)

IN ADDITION

- PDMS could also be located at the foot end
of the either ceiling-mounted or on a mobile cart
- Storage for the infants stuff (plush toy)
- Infotainment for the parents e.g. TV, radio, internet
- Examination light (e.g. Polaris® 50 ceiling or mobile,
VarioLux® rail mounted)
- Hand disinfection near the incubator
- Chair for kangarooing

ELEMENTS OF THE MONITORING AND VENTILATION SIDE**Monitoring**

- Viewing height approx. 1,500 mm
- Positioned behind and above the incubator
- Accessible from the head end of the incubator
- Transport monitor (maybe IACS system)
- Storage for monitoring accessories e.g. cables
- Line routing to the infant

Ventilation

- Mobile or fixed device
- Positioned behind or beside the incubator
- Monitor detachable
- Line routing to the infant
- Form of humidification
- Ventilation bag (storage)
- Additional fluid bags
- Storage for disposables
- Storage for nappy's
- Working surface
- Endotracheal suction (vacuum, air, electric)
- Services like electric-, gas- and data outlets
- Nurse call
- PDMS (height adjustable)



D-14829-2016

Developmental Care

It is recommended to keep the following points in mind:

DEVELOPMENT IN THE UTERO CHARACTERIZED BY:

- Security and containment through the utero
- Heartbeat of the mother
- Limited light and noise exposure
- Sleep cycle preservation

DEVELOPMENT IN THE ENVIRONMENT OF THE NICU CHARACTERIZED BY:

- Painful procedures
- Excessive light and noise exposure
- Interrupted an inadequate sleep
- Separation of the mother

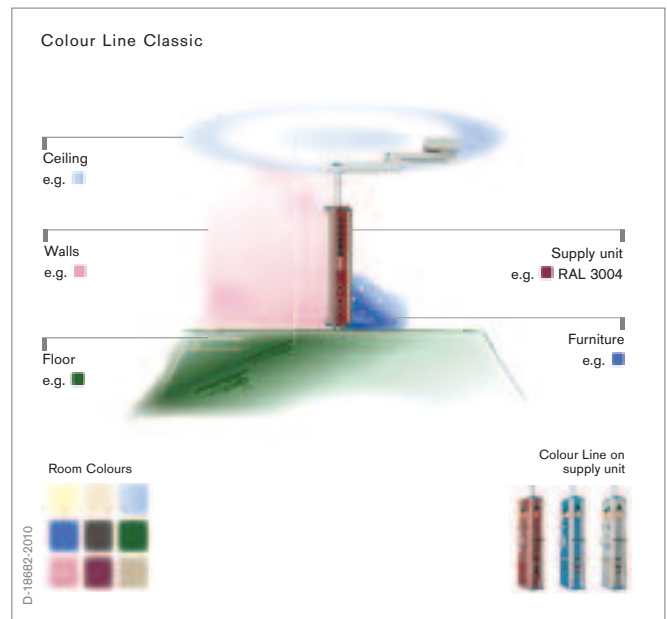
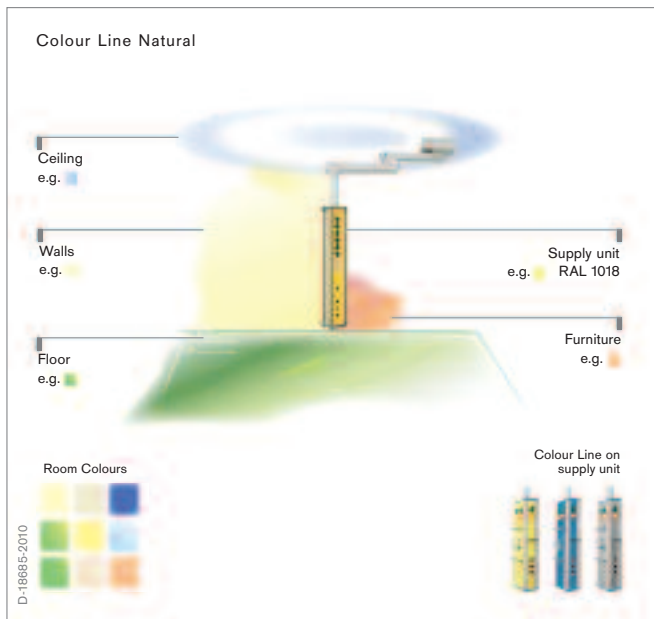


D-84732-2012

Support the Developmental Care

THE IMPACT OF COLOR

- The psychological aspect of colours is highly significant¹²⁾
- The infant and parents spends a long time in a NICU, so that the use of color has a big impact
- Think about a concept for the whole hospital
- Supply units could be part of the concept (Colour Line)



¹²⁾Claudia Schumm, Feng Shui im Krankenhaus / Healing Rooms in Hospitals, Springer, 2004

THE IMPACT OF NOISE

- Preterm infants are highly vulnerable to noise due to their immaturity
- Causes stress for patients, visitors and staff
- Reduces the ability for staff to work efficiently
- Can actuate a higher error rate
- Recommendations DIVI:
 - ≤ 45 dB during the day,
 - ≤ 40 dB during the evening,
 - ≤ 20 dB during the night



DECREASE NOISE

- Move conversation away from bedside
- Consider noise generated by medical equipment
- Never place something on the top of an incubator
- Reduce monitor alarm levels
- No radio, no telephone
- Use a thick, fluffy incubator cover to reduce the noise level inside the incubator
- Noise Display SoundEar®* monitors and displays background noise levels in the NICU

*Manufacturer: SoundEar A/S



DEVELOPMENTAL CARE – NOISE

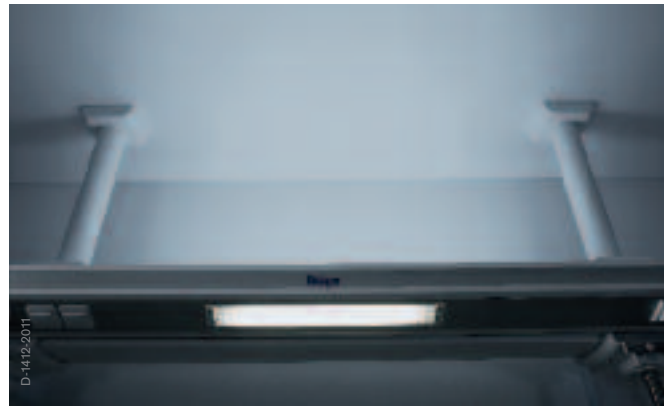
- Noise has a number of negative effects on premature babies, including hearing damage and developmental delays.
- Nevertheless, the noise level in many neonatal intensive care units is still too high.
- It is not just the intensity of the noise per se that is the problem but also noises with high frequencies such as clatter from metal objects or alarms which are especially harmful.
- Measures to reduce noise are therefore essential and well-advised. These measures could include behavioural changes such as speaking more quietly and turning down the volume settings on alarms.
- Additionally, however, there are also some beneficial sounds. Examples include the mother's heart beat and voice.

THE IMPACT OF LIGHT

- Directly influences the central nervous system
- REM sleep periods (important for the brain development) are greatly reduced at bright light levels
- Create a comfortable environment for patient, care giver and visitors
- Improve the healing process by providing the right lighting ambience
- Improve work processes (e.g. documentation, medication, etc.)
- Reduce stress by providing orientation

LIGHT MANAGEMENT

- If bright light is needed for medical assessments, infant's eyes must be protected to avoid damage to the immature visual system
- Reduce ambient light
- Reduce screen brightness of medical equipment
- Use individual, indirect light systems
- Use incubator covers
- Ponta indirect light, RGB light or circadian light
- Agila®, Movita® navigation light column, navigation light arm system
- Workstation components, drawer light



DEVELOPMENTAL CARE – LIGHTING

- Light used to be an underestimated topic on neonatal wards because it is more complex than it seems.
- Today we know that light can damage the child's development in many ways.
- At the same time, circadian light regimes can exert a positive influence on premature babies.
- It is therefore important to control and limit the influence of light.



Family Centered Care

THIS IS TODAY'S APPROACH



BUT WHAT DO WE EXPECT FOR THE FUTURE?

Several studies conclude that the early separation and psychological distress of the parents have a negative impact on the development of preterm babies.

WHAT CAN YOU DO?

CHANGE THE PROCESS!

- Prevent separation
- Closeness
- Skin to skin – Kangaroo mother care
- Rooming-in 24/7
- Breastfeeding
- Empowerment
- Parents are the primary care givers

NICU + ROOMING-IN = A CONTRADICTION?

Today it is possible to practice Kangaroo Mother Care (KMC) even with tube feeding and ventilated babies.



But this situation may continue for weeks and even months!
Without any privacy for the parents? This is not reasonable!

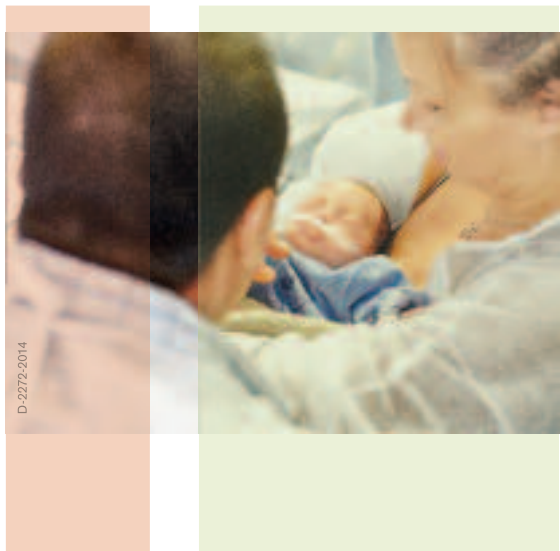
How can you support them?

NICU + Rooming-In



D-506-2014

NICU + Rooming-In + Family area



D-2272-2014

Workplace Solution 1

Ponta C Beam System

1. PONTA BEAM

Ponta beam with a length of 2,800 mm for one bed. Indirect light, night light and reading light are included. Beam includes gas outlets, RJ45 and electrical outlets.

2. INFUSION SIDE

Shuttle for a rack with 1,500 × 38 mm poles. The poles are for mounting infusion- and syringe pumps. Arm system 300 × 300 mm with slide adapter. Arm system 200 × 200 mm with pole adapter. Shelf with drawer for disposables. CVP pole with holder for 4 fluid bags. Several standard rails.

Devices at supply unit

Monitoring (hemodynamic)
Endotracheal suction

Infusion- and syringe pumps
Fluid bags

3. MONITORING SIDE

Shuttle for a rack with 700 × 38 mm poles. Lift arm system with VESA adapter and keyboard holder. Shelf with drawer for disposables and cable boxes below the shelf.

Devices at supply unit

PDMS Monitor

Additional devices supplied by unit

Mobile ventilator below the shelf
(small footprint)



Workplace Solution 2

Ponta E/S Beam System

1. PONTA BEAM

Ponta beam with a length of 2,200 mm for one bed. Indirect light and night light are included. Beam includes electrical outlets for backup.

2. INFUSION SIDE

Shuttle with an 400 mm arm and a Agila® column 1,250 mm. LED down light in the column. 2 CVP poles with a holder for a total of 8 fluid bags. Arm system 300 × 300 mm with pole adapter. Shelf with drawer for disposables. Several standard rails mounted on the column.

Devices at supply unit

Endotracheal suction

Infusion- and syringe pumps

Fluid bags

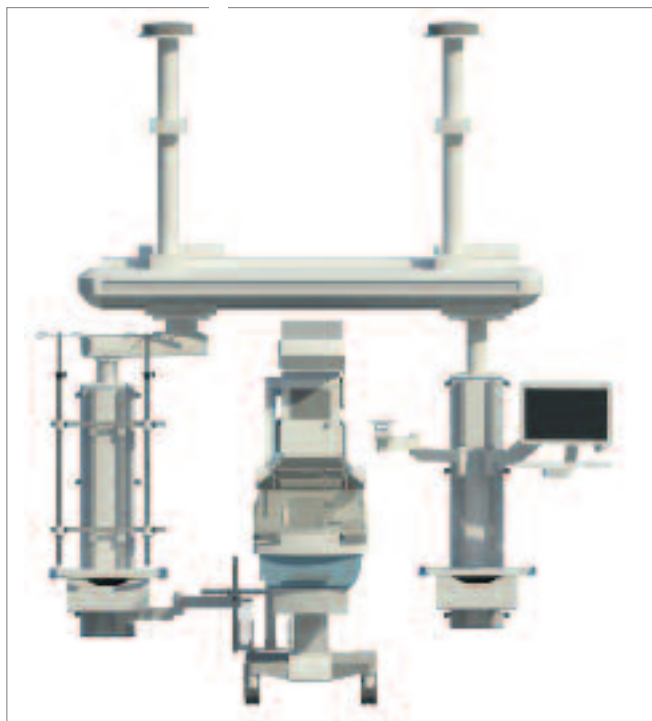
3. MONITORING SIDE

Shuttle with a Agila® column 1,250 mm. LED down light in the column. Arm system 300 × 300 mm with slide adapter. Lift arm system with VESA adapter and keyboard holder. Shelf with drawer for disposables. Rail-mounted examination light.

Devices at supply unit

Monitoring (hemodynamic)

PDMS



Workplace Solution 3

Ponta E/S Beam System

1. PONTA BEAM

Ponta beam with a length of 3,100 mm for one bed. Indirect light, night light and reading light are included. Beam includes electrical outlets for backup.

2. INFUSION SIDE

Shuttle with an 400 mm arm and a Movita® column 1,250 mm. 2 CVP poles with holder for 4 fluid bags in total. Arm system 300 × 300 mm with VESA adapter. Shelf with drawer for disposables. Several standard ails mounted on the column.

Devices at supply unit

Infusion- and syringe pumps
Fluid bags

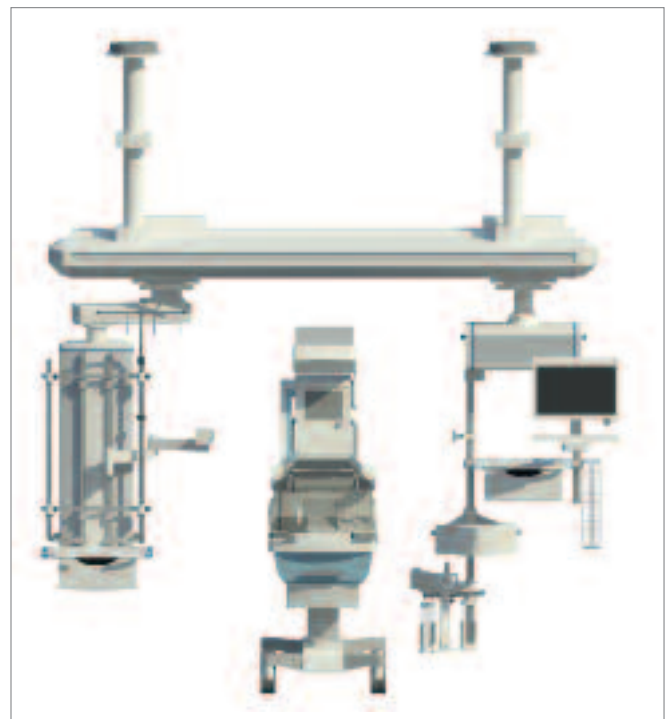
Monitoring (hemodynamic)

3. MONITORING SIDE

Shuttle with a Movita® head with an 1.5B rack. Arm system 200 × 200 mm with pole adapter. Lift arm system with VESA adapter and keyboard holder. Shelf with drawer for disposables. Swivel cupboard for the patient's personal belongings.

Devices at supply unit

Endotracheal suction
PDMS



Workplace Solution 4

Agila[®] Column tube / Movita[®] Column

1. INFUSION SIDE

Arm system 750 + 750 mm and an Agila[®] column tube 1,500 mm. LED down light in the column. 2 CVP poles with holder for 8 fluid bags in total. Lift arm system with VESA adapter and keyboard holder. Shelf with drawer for disposables. Several standard rails mounted on the column.

Devices at supply unit

Infusion- and syringe pumps	PDMS
Fluid bags	

2. MONITORING SIDE

Arm system 750 + 750 mm and a Movita[®] column 1,250. LED down light in the column. The cable duct is integrated in the front side of the column. Arm system 300 × 300 mm with slide adapter. 1 CVP pole for 4 additional fluid bags. Arm system 200 × 200 mm with pole adapter. Several standard rails mounted on the column.

Devices at supply unit

Monitoring (hemodynamic)	Fluid bags
Endotracheal suction	



Workplace Solution 5

Movita[®] Head / Movita[®] Head

1. INFUSION SIDE

Arm system 500 + 750 mm and an Movita[®] head with an rack 1B. 2 CVP poles with holder for 8 fluid bags in total. Shelf with drawer for disposables. Several standard rails mounted on the column.

Devices at supply unit	
Infusion- and syringe pumps	
Fluid bags	

2. MONITORING SIDE

Arm system 750 + 500 mm and a Movita[®] head with an rack 1B. 2 × arm system 200 × 200 mm with VESA adapter. 1 CVP pole for 4 additional fluid bags. Arm system 200 × 200 mm with pole adapter.

Devices at supply unit	
Monitoring (hemodynamic)	Fluid bags
Endotracheal suction	Detachable control screen of ventilation device



Workplace Solution 6

Gemina[®]DUO

1. INFUSION SIDE (MIDDLE)

Up and down light integrated in the column. 1 CVP pole for each bed with holder for 8 fluid bags in total. Lift arm system with VESA adapter and keyboard holder. Shelf with 2 drawers for disposables. Several standard rails mounted on the column. Cable management along the column.

Devices at supply unit	
Infusion- and syringe pumps	_____
Fluid bags	_____
PDMS	_____

2. MONITORING SIDE (LEFT AND RIGHT)

Up and down light integrated in the column. Arm system 300 × 300 mm with slide adapter. Arm system 300 × 300 mm with pole adapter. Shelf with drawer for personal things.

Monitoring (hemodynamic)	_____
Endotracheal suction	_____



Workplace Solution 7

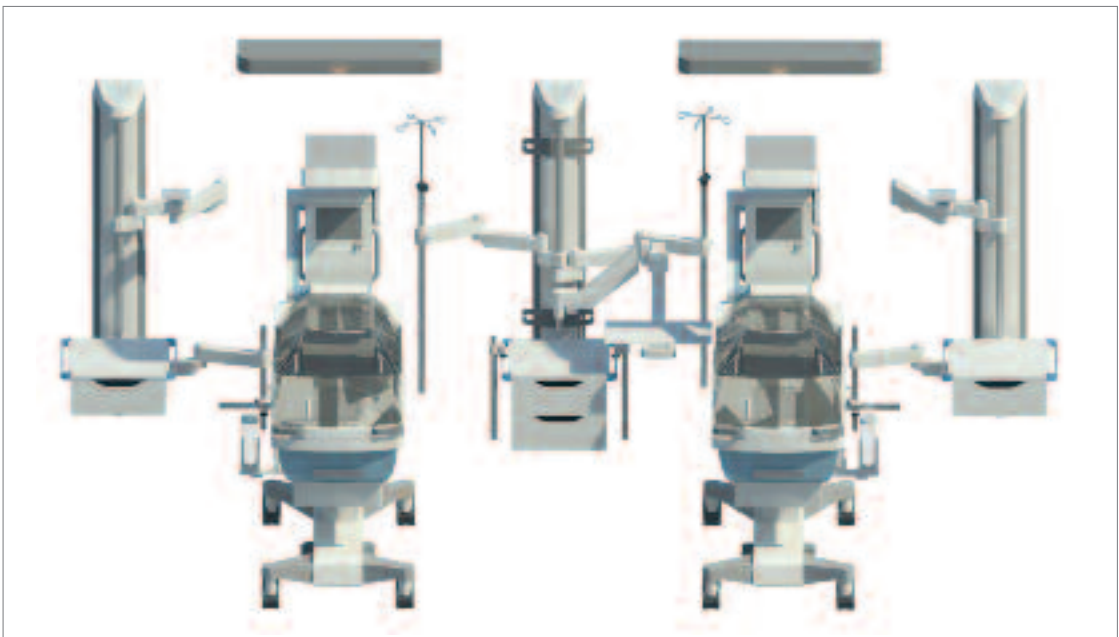
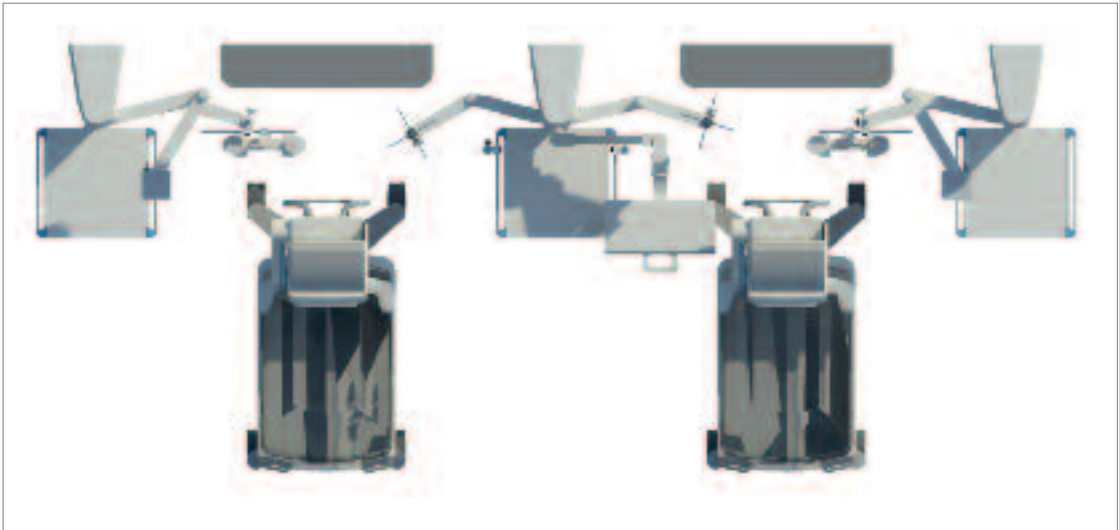
Gemina®DUO

1. INFUSION AND MONITORING SIDE IN THE MIDDLE OF TWO INCUBATORS

Up and down light integrated in the column. 1 CVP pole for each bed with holder for 8 fluid bags in total. Lift arm system with VESA adapter and keyboard holder. Shelf with 2 drawers for disposables. Several standard rails mounted on the column. Cable management along the column.

Devices at supply unit

Infusion- and syringe pumps	_____
Fluid bags	_____
Monitoring (hemodynamic)	_____
Endotracheal suction	_____
Examination light	_____



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