

# **Primus Infinity® Empowered**



Welcome to the next level

# The next level of reliable performance



Dräger takes CareArea<sup>™</sup> integration to a new level with the Primus Infinity Empowered. It's the first solution of its kind, capable of seamlessly integrating our state-of-the-art Primus anesthesia workstation into the Infinity<sup>®</sup> Acute Care System<sup>™</sup>. As a result, Primus Infinity Empowered brings workflow and utilization to the next level, while eliminating gaps in the patient record to enhance reliable decision support and quality of patient care.

#### Empowering next-generation connectivity

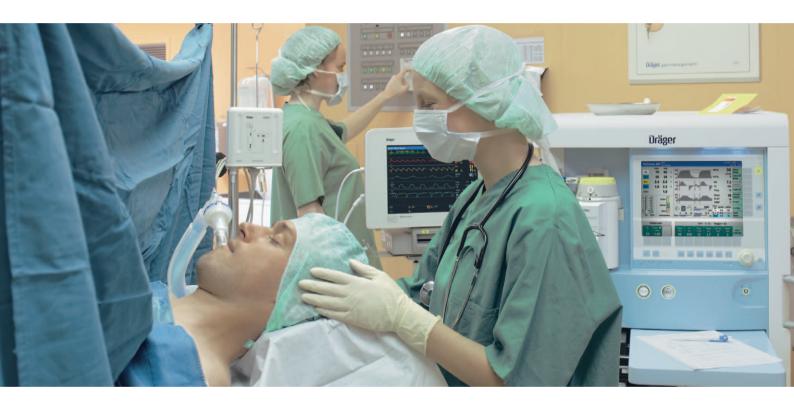
By working closely with medical professionals and continuously analyzing the needs of customers in the perioperative care environment, Dräger has been innovating anesthesia for more than 100 years. Today's Primus *Infinity Empowered* enables you to take advantage of the latest monitoring, anesthesia information system solutions and hospital information system technology. It allows you to integrate comprehensive data in the OR.







# The next level of care



### Operating at a higher level

The Primus *Infinity Empowered* has the outstanding precision and performance of the electronically driven E-Vent<sup>™</sup> plus ventilator inside. Based on feedback from the users of our more than 15,000 Primus family products in hospitals around the world, we have developed additional innovations that enhance anesthesia performance while improving user convenience.

- New level of patient safety is achieved automatically by monitoring the xMAC value for an assessment of depth of anesthesia.
- Improve cost control with anesthetic agent consumption and uptake calculations for the entire case
- Standard service interval of 1 year giving a better cost of ownership



# The next level of ventilation performance

Comprehensive ventilation capabilities assure uncompromising patient therapy for all patient age ranges and situations.

- Improved neonatal ventilation due to enhanced sensitivity of flow measurement for tidal volume settings down to 5 ml, and a frequency of up to 100 1/min.
- Primus Infinity Empowered brings you to the next level of lung protective ventilation with the new ventilation mode Volume Autoflow<sup>®</sup>, combining all advantages of volume and pressure controlled ventilation.
- Continuous positive airway pressure in pressure support ventilation enables spontaneous breathing on a set pressure level.

# Next level of minimal flow performance

The Primus *Infinity Empowered* anesthesia workstation combines the benefits of the compact, heated breathing system with electronically controlled fresh-gas delivery and the E-Vent<sup>™</sup> *plus* ventilator, making low and minimal flow delivery easily attainable.

Low and minimal flow anesthesia helps to preserve the upper airways while reducing the potential for post-operative complications due to infections. At the same time you can reduce anesthetic agent costs by up to 50%\*.

- Conditioning of breathing gas for the most convenient ventilation
- Intuitive guide to the optimum low flow settings: The Econometer. It supports safety and ease of implementation by helping eliminate gas deficiencies.
- \* Jan Baum, Die Inhalationsnarkose mit niedrigem Frischgasfluß, Thieme, 1998





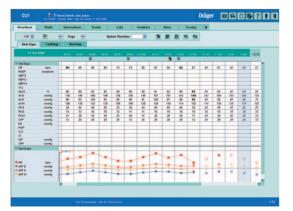
# The next level of process optimization

#### A smart way of enhancing care

The Primus Infinity Empowered can support you with increased efficiency as it improves care delivery. Its well accepted, intuitive user interface is easy to use and helps to reduce training requirements and associated costs. Meanwhile, its upgradeability helps you leverage your investment over time.

The open-architecture design of Primus *Infinity Empowered* solution gives you high flexibility to incorporate it into your information network. In combination with Infinity® Explorer you gain networked access to lab data, X-rays and PDMS, to speed-up your decision making process. The Innovian Periop with its electronic scheduling system makes it easier to optimize OR and staff utilization. Primus *Infinity Empowered* is prepared for the upcoming wireless accessory detection system for Infinity<sup>®</sup> ID accessories. This system will also support you to enhance your workflow efficiency and safety, checking the integrity of the workstation and monitoring replacement intervals.

Put it all together and you have a pivotal solution for achieving the next level of integrated CareArea<sup>™</sup> efficiency – Primus *Infinity Empowered*.



#### Workflow benefits

- · Speeds data access to expedite decision-making
- Reduces time staff has to spend collecting data
  Intuitive user interface design consistently deployed across monitoring, IT and therapy applications throughout the hospital promote proficiency with less training time and expense
- Assures uninterrupted flow of vital signs data with the seamless connectivity of our state-of-the-art transport monitoring



## Next-level benefits

- Excellent ventilation performance
- · Minimal and low-flow capabilities
- Process driven monitoring
- Dräger reliability

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Process driven monitoring Consistent vital signs with Infinity® monitoring from initial transport all the way through to recovery... and beyond.

#### **Excellent ventilation performance**

Includes automated recording of information for the patient record, so system users can concentrate on the situation and the patient for exceptional care.



#### Dräger reliability

More than a century of medical device experience means users can count on the Primus *Infinity Empowered* to make every second count. In addition, our insightful Education & Training helps optimize utilization while DrägerService® helps do the same for system uptime.

Minimal flow capabilities Alerts help you avoid interruptions while allowing you to utilize superior minimal and low-flow anesthesia with added confidence.

# Technical Data Primus Infinity® Empowered

Operating data	
Weight	147 kg (without vaporizers or cylinders)
Dimensions (H x W x D)	138 cm x 80 cm x 80 cm
Power	200 W, typical, max. 2.5 kW with power drawn from auxiliary outlets
Operating voltage	100 - 240 V~, 45 - 65 Hz
Integrated power backup	at least 30 minutes, up to 90 minutes, depending on ventilation mode
Serial interface	2 x RS 232, 1 x Dräger Base (IV System)
Protocol	Medibus
Ventilator E-Vent <sup>®</sup> plus	Electrically driven and electronically controlled
Operating Modes	Manual, spontaneous Volume Mode; sychronized, optional with PS Pressure Mode; synchronized, optional with PS Option: Pressure Support (PS), Volume Mode Autoflow; synchronized, optional with PS
Pressure limitation PMAX (in Volume Mode)	(PEEP+10) to 70 hPa
Pressure limitation PINSP (in Pressure Mode)	(PEEP+5) to 70 hPa
Trigger	0.3 - 15 L/min
Tidal volume (in Volume Mode)	20 - 1400 mL, 5 - 1400 mL with option Advanced Ventilation
Tidal volume (in Pressure Mode)	to 1400 mL
Breathing frequency (freq.)	3 - 100 1/min
Inspiration time (TINSP)	0.2 - 6.7 s
Inspiration/Expiration time ratio (I:E)	max. 5:1 to 1:99
Plateau time (TIP:TINSP)	0 - 60 %
Inspiratory flow (in Pressure Mode)	max. 150 L/min
PEEP in Volume Mode	0 - 20 hPa (max. PMAX - 10 hPa)
PEEP in Pressure Mode	0 - 20 hPa (max. PINSP - 5 hPa)
Fresh-gas flow	0 and 0.2 - 18 L/min (electronically controlled fresh-gas delivery)
TSLOPE (in Pressure Mode and Pressure Support)	0 - 2 s
Total system leakage	< 150 mL at 30 hPa (automatic leak test)
O <sub>2</sub> flow control	$O_2$ concentration: 21 - 100 Vol.% Sensitive ORC function: at least 25 Vol.% or 200 mL/min for nitrous oxide (N_2O) as carrier gas
O <sub>2</sub> flush	> 35 L/min
O <sub>2</sub> safety flow	0 - 12 L/min
Flow meter for oxygen delivery	optional; 0 to 10 L per minute
External fresh gas outlet	optional
Monitoring	
Inspiratory and expiratory concentration of O <sub>2</sub> , N <sub>2</sub> O, CO <sub>2</sub> as well as anesthetic agents, (Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane); Minute volume (MV) and Tidal volume (VT); Breathing frequency; Peak pressure, plateau pressure, mean pressure, PEEP;	

Patient compliance CPAT

Option: Functional oxygen saturation (SpO<sub>2</sub>)

The following parameters may be displayed as waveforms: Concentration of CO<sub>2</sub>, O<sub>2</sub>, as well as anesthetic agents, airway pressure, inspiratory and expiratory flow; Option: Plethysmogram

Bar graph display of volumeter and tidal volume; Virtual flow tubes for O<sub>2</sub>, AIR, N<sub>2</sub>O; Display of graphical trends and numerical lists of measured values; AutoSet for alarm limits

Consumption measurement Fresh-gas consumption per case, Total agent consumption per case (option Advanced Monitoring), Agent consumption due to patient uptake per case (option Advanced Monitoring)

The colors of Primus Infinity Empowered may differ from the color of the Primus Infinity Empowered pictures in this brochure

Europe, Middle East, Africa, Latin America, Asia, Pacific:

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The quality management system at Dräger Medical AG & Co. KG is certified according to ISO 13485, ISO 9001 and Annex II.3 of Directive 93/42/EEC (Medical devices).