



Redefining Anaesthesia

DRÄGER ZEUS®
INFINITY® EMPOWERED

MT-5570-2008

The potential to do more



Introducing the Dräger Zeus® Infinity® Empowered

Dräger has introduced state-of-the-art technology and a host of new solutions to develop the Zeus Infinity Empowered (IE), the most advanced, comprehensive support solution Dräger has ever built for anaesthesia. By doing so, Dräger raised the bar yet again, demonstrating a century-long commitment to performance, innovation, and quality.

TAKING PROCESS EFFICIENCY TO THE NEXT LEVEL

The complexities of anaesthesiology and the challenges of the perioperative environment have increased as procedures become more sophisticated—and as more patients present with acuity issues and comorbidities. Accounting for the patient's physical condition as well as the requirements of the procedure at hand, anaesthesiologists must develop a detailed plan for each procedure. This plan encompasses narcosis, ventilation, therapy, and recovery—a process that is supported by vigilant monitoring of vital functions and system parameters. The Zeus IE revolutionizes this process to improve quality, cost-effectiveness, and outcomes.

INTEGRATION

The Zeus IE provides seamless integration of ventilation, therapy, monitoring, and information management in a single, elegant solution. Taking process orientation to the next level, the Zeus IE puts practically every aspect of your workflow right at your fingertips at the point of care.

CONTROL

The Zeus IE, with its high level of integration and automation of routine processes, gives you unparalleled control over the entire OR process so that you can stay focused on your main objective—caring for your patient.

QUALITY

Every aspect of the Zeus IE was designed and built to the uncompromising quality standards Dräger has been known for over the last hundred years. The Dräger Zeus IE will help you to maximize the quality of your processes, and with that, the quality of care.

VERSATILITY

The Zeus IE offers a wider range of ventilation capabilities than ever before. As a result, anaesthesiologists can confidently accommodate all kinds of patients, neonate through adult. They can even handle hard to ventilate patients while eliminating the headaches involved with arranging for ICU ventilators.

EFFICIENCY

At Dräger, we know that the OR process is more than just an operation. Preparation, documentation, postoperative routines, and maintenance are also essential. The Zeus IE was designed to help you increase your perioperative productivity and create the most cost-effective working environment possible.

PATIENT SAFETY

Integrated decision support, intelligent alarms, and enhanced monitoring and visualization systems are all part of Dräger's uncompromising, ongoing commitment to optimize patient safety during every phase of the procedure.

Target-controlled anaesthesia



FULLY FEATURED ICU-QUALITY VENTILATION

Offering a wide range of anaesthesia capabilities with one solution, the Zeus IE provides high-quality ventilation in the operating room that is ideal for adults, children, and neonates alike. With its innovative turbine-driven TurboVent ventilation, it offers all of the advantages of spontaneous breathing and active PEEP with virtually unlimited inspiratory flow—regardless of the ventilation mode.

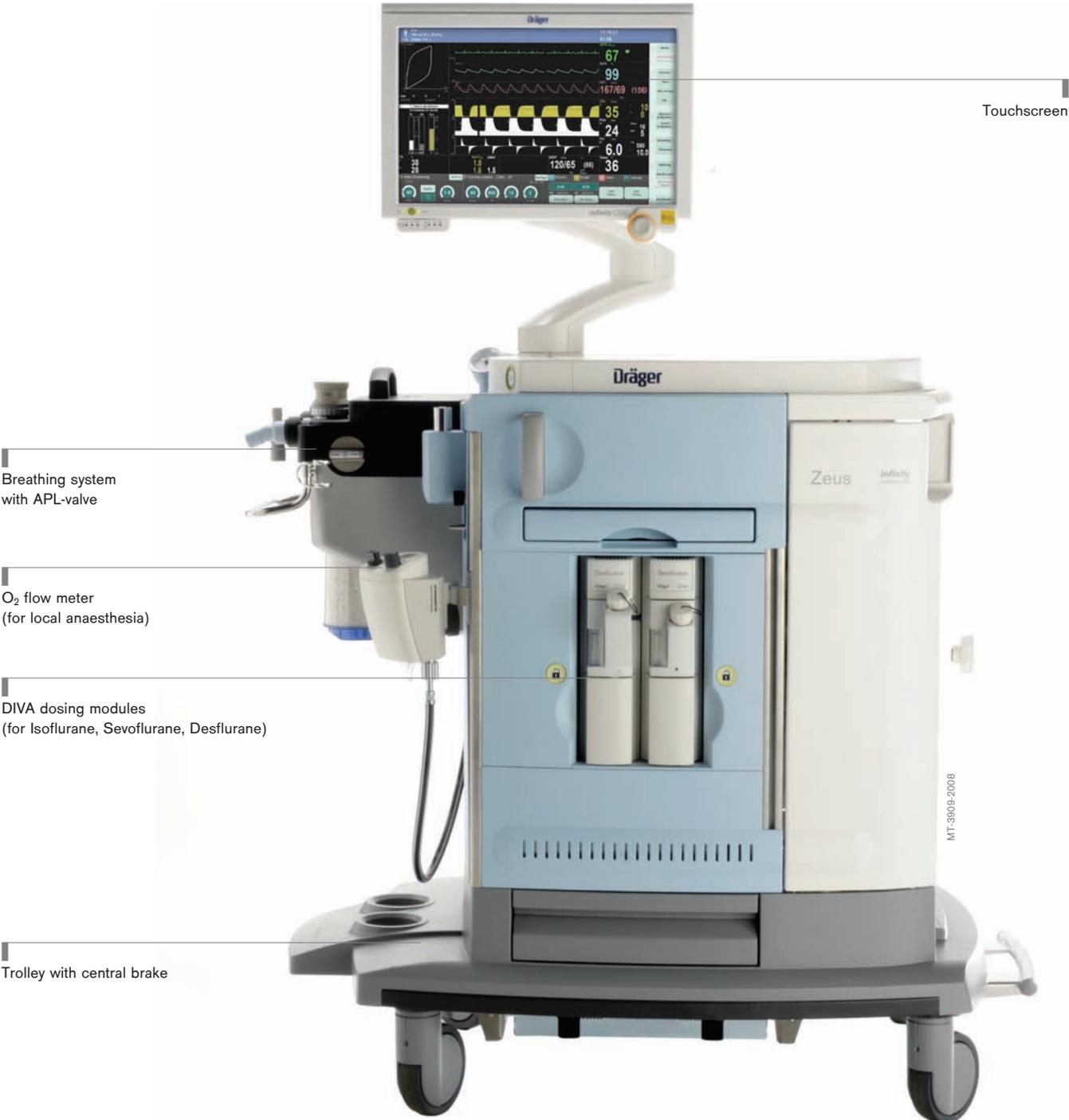
AUTOMATIC ADMINISTRATION

The Zeus IE automatically administers oxygen, carrier gas, and volatile agents to deliver the right amount of anaesthesia via direct injection of volatile agents (DIVA). This optimizes patient safety by delivering the least amount of volatile anaesthetic needed to be effective.

PRECISE AND EFFICIENT DELIVERY

With an array of decision-support functions and capabilities, the Zeus IE ushers in the era of target-controlled anaesthesia (TCA). Simply set targets for each phase of the anaesthesia process and let the Zeus IE calculate a reasonable and effective dose. You can use TCA regardless of the desired fresh gas flow rate or interval—all the way down to closed loop ventilation. This gives you the most cost-effective anaesthesia possible by keeping gas consumption to an absolute minimum.

DRÄGER ZEUS® INFINITY® EMPOWERED



Touchscreen

Breathing system with APL-valve

O₂ flow meter (for local anaesthesia)

DIVA dosing modules (for Isoflurane, Sevoflurane, Desflurane)

Trolley with central brake

MT-3909-2008

More time for care giving



D-12334-2009

COMPREHENSIVE MONITORING

The Zeus IE supports your therapeutic decisions with comprehensive monitoring of a wide range of vital parameters. Combined with an intelligent alarm management system, this provides a new level of patient safety and allows you to spend more time caring for the patient.

INTUITIVE USER INTERFACE WITH DUAL SCREEN CONTROL

Dräger designed the Zeus IE user interface to be as intuitive and simple as possible. The high level of standardization makes it easy for personnel to become familiar with the Zeus IE, which minimizes

training cost and effort. The Zeus IE is equipped with the largest standard monitor screen available on the market today* to maximize the legibility of parameters, and a structured, personalized monitor setup lets users change between display options to suit their needs.

With the Zeus IE touchscreen, users have instant access to all relevant parameters, trend data, and diagnostic information, as well as an innovative intelligent alarm management system.

* At the time, when this brochure was released



Protecting your investment



MINIMIZED COST AT EVERY TURN

With a greater degree of capabilities, integration, and automation, Zeus IE conveniently expands the possibilities for therapy, patient monitoring, and documentation. As a result, the Zeus IE helps to optimize cost-efficiency by improving perioperative productivity and clinical workflow throughout the patient care process.

MAINTENANCE AND SERVICE

With the Zeus IE, you can perform routine maintenance checks at the touch of a button. Remote service, just one of the innovative features of the Infinity Network, helps minimize in-field service time, further reducing costs and system downtime. This kind of advanced connectivity, combined with open architecture and modular design, will protect your investment in the long term.

System components and accessories

With the Dräger Zeus® Infinity® Empowered, you can choose from a wide range of options and accessories to create exactly the anaesthesia workstation you need. Here are just a few examples:

MT-876-2002



DIVA™ application modules for Isoflurane, Sevoflurane, and Desflurane

Allows fast and reliable administration of anaesthesia with minimal overshoot

MT-0750-2008



Anaesthetic Gas removal System (AGS), capacity: 30-50 l/min

Effectively removes anaesthesia gases from the working area

MT-1366-2008



Reusable breathing circuit set for neonates and pediatrics

For tidal volumes up to 200 ml

MT-2696-2004



SpiroLife® flow sensor

Reliable and accurate hot-wire anemometry technology; can be sterilized

MT-11165-2006



HEPA breathing system filter SafeStar® 55

Effectively conditions inspired air

MT-2006-2008



Drägersorb® CLIC

Allows rapid exchange of soda lime while effectively eliminating the possibility of skin contact

MT-3791-2008



Waterlock® 2

Removes condensation from the breathing circuit

MT-10994-2006



LiteStar® face mask

Lightweight, transparent face mask with compatible connection for oxygen application

Gas delivery

Modes of operation	Fresh-gas control, auto control with insp. O ₂ control
Fresh-gas flow	0.25 – 18 l/min (fresh gas control); 0 – 18 l/min (auto control); closed system mode (Uptake)
O ₂ control	25 – 100 %; ORC
Carrier gases	N ₂ O and Air
O ₂ flush	> 35 l/min
O ₂ safety flow	0 – 12 l/min
Auxiliary O ₂ flow tube	0 – 16 l/min (regional anaesthesia)
External fresh-gas outlet	Optional

Anesthetic agent delivery DIVA

Mode of operation max. 2 DIVA Modules	Fresh-gas control, auto control with exp. agent control ISO, SEV, DES
Content	315 ml
Delivery range: Fresh-gas control	ISO: 0 – 5 kPa; SEV: 0 – 8 kPa; DES: 0 – 18 kPa
Delivery range: Auto control	ISO: 0 – 2.5 kPa; SEV: 0 – 5 kPa; DES: 0 – 12 kPa

Ventilator TurboVent

Electronically driven and controlled turbine open for spontaneous breathing	
Modes of operation	Manual vent.; spontaneous vent.; volume mode; volume mode with Autoflow; pressure mode; synchronized volume and pressure modes; CPAP-pressure support
Tidal volume	20 – 1500 mL (volume mode)
Application range	Neonates, Children, Adults
Inspiration Pressure Pinsp	PEEP – 70 hPa
Pressure support above PEEP (PSupp)	0 – 70 hPa
Breathing frequency	3 – 80 l/min
Inspiratory time	0.2 – 10 s; (I:E 4:1 – 1:4)
Pressure rise time	0 – 2 s
Inspiratory flow	0 – 180 l/min
Pressure limitation PMAX	8 – 50 hPa
PEEP/CPAP	0 – 35 hPa/0 – 10 hPa
Flow trigger	0.3 – 15 l/min
System tightness	< 100 ml at 20 hPa (autom. measurement)
Volume of soda lime cannister	1.5 l

Monitoring

Touchscreen 17" Colour; Display of up to 7 waveforms with mini trends; intelligent alarm management, central alarm display; comprehensive browser-based help system; monitoring of inspiratory and expiratory concentrations of O₂, N₂O, CO₂ as well as volatile agents; minute volume, tidal volume, breathing frequency; Peak, Plateau, Mean and PEEP breathing pressures; inspiratory and expiratory flow; compliance, resistance; following parameters may be displayed as waveforms: CO₂, O₂, volatile agents, breathing pressure, inspiratory and expiratory flow or volume; Virtual flow tubes; PV or FV Loop; gas and vol. agent consumption actual/summarized; graphical trend with cursor; tab. trend with time filter

Patient monitoring

ECG (6 lead); adjustable Multilead ST-segment analysis incl. alarm; Non-invasive blood pressure (single, interval, continuous, venostasis); invasive blood pressure (max. 10 channels); cardiac output incl. hemod. calculations, pulse oxymetry with plethysmogram; temperature measurement (2x); Neuro muscular transmission (NMT); Anaesthesia Effect monitoring (BISx)
Central alarm management, trend display, mechanical integration

General

Data exchange	USB
Serial interface	2 x RS232
Ethernet interface (1)	For access to hospital network, network printer or remote inspection
Ethernet interface (2)	For access to hospital network printer or remote inspection
Ethernet interface (3)	Infinity network connection
Power supply	100 – 240 V, 45 – 65 Hz
Battery backup	Min. 30, max. 90 minutes
Dimensions (H x W x D)	165 x 110 x 70 cm
Weight	180 kg incl. 2 DIVA-Modules

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

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