Your personal anesthesia assistant

DRÄGER PRIMUS®

Dräger. Technology for Life®
You're playing a vital role in an increasingly complex healthcare system. Your job is to provide state-of-the-art care every step of the way, and to do it in the most cost-effective way possible. So why settle for a solution that wasn't built around your needs and the needs of your patients?

In today's highly integrated hospital environment, anaesthetists often find themselves at the very core of a highly complex process. Faced with factors such as new and demanding procedures and techniques, increased patient throughput, spiraling costs and even personnel shortages, efficiency has become one of the most important goals for any modern healthcare institution. But being efficient requires an intimate knowledge of the processes involved – and finding elegant solutions that precisely address those problems.

At Dräger, it's something we've been doing for over a century. After listening medical professionals around the world, we decided to create an anesthesia workstation that was designed to be nothing less than your personal anesthesia assistant.
Introducing the Dräger Primus®

SUPPORT
The Dräger Primus combines time-tested design with state-of-the-art technology to answer the demand for an innovative, comprehensive anesthesia solution for today's increasingly complex medical environments. Its ergonomic design provides reliable workflow support in practically every phase of the OR process.

CARE
The advanced, ICU-quality ventilation and monitoring capabilities offered by the Primus workstation make it perfectly suited for adults, children and neonates of any acuity level.

SIMPlicity

The Primus features the familiar user interface concept common to all current Dräger medical devices. Its clear, intuitive structure supports a rapid familiarization process, making it easier for your staff to learn to operate.

Efficiency
Preparation, documentation, pre- and postoperative routines and maintenance are essential components of the OR process. Its fully automated self check feature is just one example of this kind of process support. Because the Primus incorporates an electrically driven piston ventilator, it requires no drive gas. With the Primus, you’ll quickly discover and utilize efficiency reserves in your perioperative workflow that will help you create a cost-effective working environment.
OUSTANDING VENTILATION

Today’s high acuity levels and rising comorbidity are driving the demand for new standards for anesthesia platforms. Equipped with Dräger’s advanced E-Vent plus high-speed electric piston ventilator, the Primus delivers just that – peak flow comparable to ICU ventilators and a full range of volume and pressure oriented modes that will provide the therapy options you need in any clinical situation.

Aside from its wide range of available ventilation modes, the Primus offers options such as pressure support ventilation for spontaneously breathing patients and Volume AutoFlow ventilation for patients with significant pulmonary obstruction. Thanks to its piston ventilator technology, combining peak flows and fast response times, the Primus offers important benefits. An adjustable flow trigger helps reduce respiratory work, and PEEP can be maintained regardless of the ventilation mode. Taken together, the Primus puts the power of true ICU-quality ventilation to work for you, providing clear advantages for pediatric and critical care patients.

Additional ventilation mode packages are also available that will expand your capabilities even further, bringing the advantages of spontaneous breathing to both volume and pressure controlled ventilation modes (upgrade packages “Advanced Ventilation” and “Volume AutoFlow”).
COMPREHENSIVE MONITORING

The Primus not only provides state-of-the-art therapy. Equipped with one of the most advanced, open architecture monitoring concepts on the market today, the Primus workstation can be configured individually around your workflow. You can customize your own workplace by integrating our Infinity Patient Monitoring System and information management system. Dräger’s unique Pick and Go transport concept not only offers seamless data monitoring and documentation during transport, it also cuts down on the total number of monitors needed for your processes. The result will save you time, money and maintenance. Our innovative pod-based cable management featuring cable consolidation significantly reduces staff workloads and patient preparation time by making connections quick, easy and clutter-free.

Additional monitoring options providing enhanced, real-time visual information such as PV and flow loops are available (upgrade package “Advanced Monitoring”).
INTUITIVE USER INTERFACE

Learning to use sophisticated new equipment can be a daunting and sometimes intimidating task. That's why Dräger has developed and maintained a common user interface and operating philosophy for a wide range of our medical equipment. If you've used a Dräger device before, you'll probably find that you can learn to use a new one very quickly. Of course, the Primus is no exception. But even in the unlikely event that the Primus is the first Dräger device you've ever used, you'll soon discover that the large and extremely intuitive TFT color user interface will help you through its features and systems with minimal time and effort.

PERIOPERATIVE WORKFLOW

An optional data link to the Infinity Patient Monitoring System brings additional support to your perioperative processes. The Infinity system gives you access to up to 24 hours of continuous patient information from the ER or ICU prior to surgery and a continuous record for post-surgery follow up and analysis.
The healthcare sector faces a constant challenge of continuing medical education in order to meet stringent quality standards, often with little or no available budget. In the modern medical world, the safe and effective use of medical devices is an essential part of that challenge. Our education and training tools, including everything from basic device training to management skill courses, help your staff develop knowhow they need to make the most of your investments and your resources.

System Components and Accessoires

- **Compact Breathing System**
  Easy to mount and disassemble breathing system with integrated heater.

- **Auxiliary Oxygen Therapy**
  Featuring O₂ therapy, supplied by Primus gas delivery.

- **Large Writing Trap**
  This writing tray can easily be mounted and it fits A3 paper format.

- **External Fresh-gas outlet**
  for connection of semi-open breathing systems.

- **Halogen lamp**
  For workplace illumination.

- **Dräger CLIC system**
  New Clic system for easy exchange of soda lime during operation.
**Gas flow control**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>115 kg (without vaporizers or cylinders)</td>
</tr>
<tr>
<td>Dimensions (H x W x D)</td>
<td>137 cm x 80 cm x 80 cm</td>
</tr>
<tr>
<td>Power</td>
<td>200 W, typical</td>
</tr>
<tr>
<td>Integrated power backup</td>
<td>at least 30 minutes, typical 90 minutes, depending on ventilation mode</td>
</tr>
<tr>
<td>Ventilator E-Vent® plus</td>
<td>Electrically driven and electronically controlled</td>
</tr>
<tr>
<td>Pressure limitation $\text{P}_{\text{max}}$ (in Volume Mode)</td>
<td>(PEEP+10) up to 70 hPa</td>
</tr>
<tr>
<td>Pressure limitation $\text{P}_{\text{insp}}$ (in Pressure Mode)</td>
<td>(PEEP+5) up to 70 hPa</td>
</tr>
<tr>
<td>Trigger</td>
<td>0.3–15 L/min</td>
</tr>
<tr>
<td>Tidal volume (in Volume Mode)</td>
<td>20–1400 mL</td>
</tr>
<tr>
<td>Tidal volume (in Pressure Mode)</td>
<td>10–1400 mL (option)</td>
</tr>
<tr>
<td>Breathing frequency (freq.)</td>
<td>3–80 1/min</td>
</tr>
<tr>
<td>Inspiration time ($T_{\text{insp}}$)</td>
<td>0.2–6.7 s</td>
</tr>
<tr>
<td>Inspiration/Expiration time ratio (I: E)</td>
<td>max. 5:1 to 199</td>
</tr>
<tr>
<td>Plateau time ($T_{\text{plateau}}$)</td>
<td>0–60 %</td>
</tr>
<tr>
<td>Inspiratory flow (in Pressure Mode)</td>
<td>max. 150 L/min</td>
</tr>
<tr>
<td>PEEP in Volume Mode</td>
<td>0–20 hPa (max. $P_{\text{max}}$–10 hPa)</td>
</tr>
<tr>
<td>PEEP in Pressure Mode</td>
<td>0–20 hPa (max. $P_{\text{insp}}$–5 hPa)</td>
</tr>
<tr>
<td>Fresh-gas flow</td>
<td>0 and 0.2–18 L/min</td>
</tr>
<tr>
<td>Total system leakage</td>
<td>≤ 150 mL at 30 hPa (automatic leak test)</td>
</tr>
</tbody>
</table>

**O₂ flow control**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₂ flush</td>
<td>&gt; 35 L/min</td>
</tr>
<tr>
<td>O₂ safety flow</td>
<td>0–12 L/min</td>
</tr>
<tr>
<td>External fresh gas outlet</td>
<td>optional</td>
</tr>
<tr>
<td>Inspiratory and expiratory concentration of O₂, N₂O, CO₂ 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 ($SpO₂$) The following parameters maybe displayed as waveforms: Concentration of CO₂, O₂ 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 O₂, AIR, N₂O; Display of graphical trends and numerical lists of measured values; AutoSet for alarm limits</td>
<td></td>
</tr>
</tbody>
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**Serial interface**

3 x RS 232

**Protocol**

Medibus

**Absorber volume**

1.5 L

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

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**Manufacturer:**

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**As of August 2015:**

Dräger Medical GmbH changes to Drägerwerk AG & Co. KGaA.

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**CORPORATE HEADQUARTERS**

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