

Narkomed 6400



Integration without
Compromise

The Narkomed difference

Building upon Dräger's well-established Narkomed® technology, the Narkomed 6400 offers

- Advanced anesthesia ventilation
- Optimized system for low flow anesthesia
 - Warmed breathing system
 - Low Flow Wizard
- Accurate, reliable flow sensor
- Integrated gas and agent monitoring with optional integrated physiologic monitoring

At the heart of the Narkomed 6400 is the Divan ventilator. In the evolution of anesthesia workstations, Dräger has pioneered electrically driven piston ventilators in the OR. Designed to enhance patient safety and address limitations of traditional bellows ventilators, the Divan allows for extremely accurate delivery of preset tidal volumes by incorporating features such as

automatic leak detection and compliance compensation. The Narkomed 6400 automatically calculates a compliance factor and uses it to determine the additional volume that must be added to the system on a per breath basis to ensure the set tidal volume is delivered to the patient. Because the exact volume delivered by each stroke of the piston is known, this technology is uniquely suited to facilitate compliance compensation without the use of additional sensors. Best of all, the Divan consumes no drive gas – a valuable cost saving in today's healthcare environment.

In addition to precise tidal volume delivery, a compact, warmed breathing system reduces condensation in the system while delivering a warmer, more humid gas than conventional systems. This combination is particularly valuable during low flow anesthesia and pediatric procedures.

The compact breathing system utilizes Dräger's Ultrasonic Flow Sensor, providing extremely accurate monitoring of expired tidal volumes. This proven flow sensor is non-disposable, easy to clean, and moisture resistant.

Four standard ventilation modes provide flexibility, allowing you to select a ventilator mode that meets the needs of even the most clinically challenging patients.

These technologies work in harmony to offer consistent performance from adult to pediatric settings, truly distinguishing the Narkomed 6400 from conventional anesthesia workstations.

Modular





Extraordinary ease of use

The Narkomed 6400 is the latest enhancement to the Narkomed 6000 Series product line, representing the evolution of Dräger's well-established Narkomed technology. Designed with the clinician in mind, the centralized user-interface promotes quick learning by organizing data in a simple, intuitive layout. The familiar vaporizer and gas delivery interface maintains the tradition of the well-established functionality you have come to expect from a Narkomed anesthesia system.

Gas Delivery Interface

- Familiarity of traditional flow tube controls with the advantage of electronic capture of fresh gas data
- Ergonomic vaporizer positioning with the option for a three vaporizer exclusion system

Gas Monitoring

- Integrated CO₂ and agent monitoring with automatic ID of all five agents, mixed agent measurement and MAC calculation



Display

- Single, high-resolution, 15 inch full color flat screen display
- Touch-screen interface for quick navigation

Monitoring Interface

- User-centered design optimized for ease of use and efficiency of workflow
- Standard VPO and gas monitoring presented in an intuitive, interactive format
- Optional Integrated Patient Monitoring (IPM) module incorporates physiologic data, offering a consistent presentation of all monitored parameters

Ventilator Interface

- Centralized electronic control panel with streamlined design, allowing rapid identification of controls
- Facilitates easy setting of ventilation modes and parameters

Leading the way in advanced performance and versatility



Commitment to the growing needs of our customers is fundamental to Dräger's philosophy. The Narkomed 6400 system offers several unique features, designed to meet your needs today and into the future.

The Low Flow Wizard is an interactive tool that encourages optimization of low flow anesthesia techniques. The real-time feedback helps avoid waste of agent, improving management of anesthesia delivery and promoting cost-efficiency.



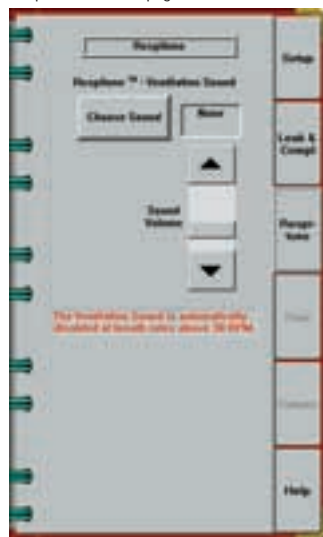
Respitone® ventilation sounds provide audible inspiratory and expiratory feedback triggered by measurements from airway pressure and CO₂ monitoring. Any disruption of the characteristic breathing rhythm, indicating a potential interruption of mechanical ventilation, is quickly identified by the clinician.

The Narkomed 6400 offers a “best of both worlds” concept by combining the familiarity of traditional flow tube technology with the advantages of electronic data capture. This feature provides on-board, real-time display of current and total gas usage as well as the export of data to systems such as Dräger's IT solutions for anesthesia.

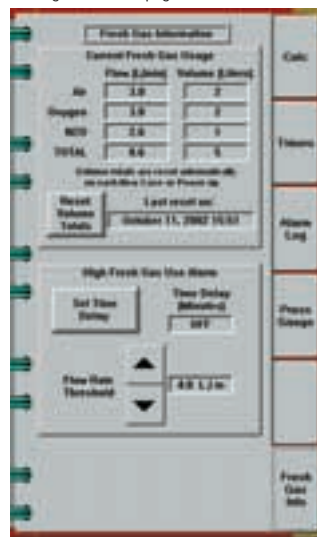
To address individual preferences and the diversity of procedures in the OR, the Narkomed 6400 allows custom configuration of preferred alarm limits and system settings. Up to 300 individual templates can be saved. Instant recall of customized settings at the touch of a button allows you to focus your attention on patient care rather than manipulation of machine settings.

Best of all, any existing Narkomed 6000 Series Anesthesia Workstation is fully upgradeable to Narkomed 6400 performance. Numerous accessories and product options are available, maximizing flexibility to address your specific needs.

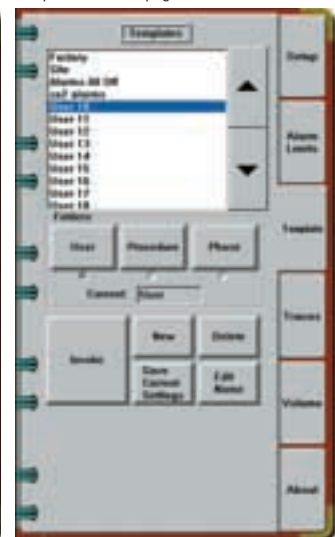
Respitone notebook page



Fresh gas notebook page



Template notebook page





... providing integration without compromise

In addition to integrated CO₂ and agent monitoring, the Narkomed 6400 offers an optional Integrated Patient Monitoring (IPM) module, incorporating physiologic data directly into the anesthesia workstation.

The IPM offers the following features:

- Full ECG monitoring of up to seven leads with simultaneous display of numeric and waveform data from up to two leads
- ST segment analysis on all ECG leads, with ST values displayed on selected leads and lead with maximum ST deviation
- Defib/Synch output for communication with defibrillators and intra-aortic balloon pumps. The system displays the point where the defibrillator synchronized pulse occurs in the ECG waveform
- Four Invasive Blood Pressures with corresponding waveform and numeric display
- Thermodilution Cardiac Output Measurement with averaging of up to four results
- Dual Site Temperature Measurements
- Non-Invasive Blood Pressure measurements with adjustable time intervals and patient age entry for proper cuff inflation
- Nellcor Pulse Oximetry with plethysmograph waveform display along with saturation and pulse numeric values

All waveforms are color-coded with adjustable trace speeds. Data from all monitored parameters is collected and presented in a numeric datalog format in addition to a trended display.

A dual channel strip chart recorder captures waveforms, vital signs and datalog information for hardcopy documentation.

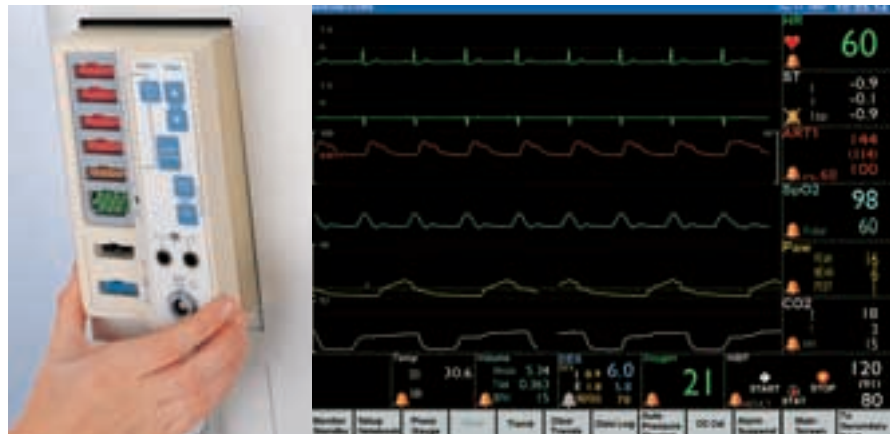
In the event of a power loss, the Narkomed 6400 battery backup provides uninterrupted viewing of all respiratory and physiologic data.

If needed, the IPM module can be exchanged during a case with minimal interruption to workflow. With this modular concept, a single cable connects the IPM to the main system, allowing for quick replacement without cycling system power.

The Auxiliary Video output option allows the connection of up to three displays to the Narkomed 6400, offering easy viewing of monitored parameters for surgeons and other OR personnel.

All this managed through a large, 15 inch, high-resolution color display. This centralized touch-screen interface provides the practical benefit of a single, cohesive user-interface with a consistent alarm philosophy for all monitoring. This ergonomic design streamlines workflow, promoting ease of use and consolidating all vital data to a single area of focus.

To provide maximum flexibility, the IPM option can be added at any time as an upgrade to an existing Narkomed 6000 Series Anesthesia Workstation.



| Technical Data | |
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| General | |
| Dimensions | (W) 34 x (H) 57 x (D) 33 inches |
| Weight | Approx. 500 lbs. |
| Power supply | 100 to 240 VAC +/- 10% @ 50/60 Hz |
| Integrated battery backup | ≥ 30 minutes |
| Touch screen display | |
| Size | 15" diagonal |
| Resolution | 1024 x 768 pixels, 256 colors |
| Integrated Safety Functions (all pneumatic) | <ul style="list-style-type: none"> • Oxygen Ratio Controller (ORC) guarantees minimum 25% (+/- 4%) O₂ concentration in relationship to N₂O. • Oxygen Failure Protection Device (OFPD) protects against delivery of hypoxic gas mixture by proportioning flow of other gases as O₂ pressure varies. • Oxygen supply pressure alarm provides audible and visual notification when O₂ pressure drops below 35 psi. • Minimum O₂ flow of 150 mL +/- 50 mL |
| Divan Ventilator | |
| Technology | Electronically controlled, electrically driven |
| Ventilator modes | Manual/Spontaneous, Volume, Pressure, SIMV |
| Tidal volume (Vt) | 10-1400 mL |
| Pressure limit control range | 10-80 cmH ₂ O |
| Pressure set control range | 10-70 cmH ₂ O |
| Breath rate | |
| Volume and Pressure mode | 6-80 +/- 5% BPM |
| SIMV mode | 3-80 +/- 5% BPM |
| I:E ratio | 1:5 to 5:1 |
| Inspiratory pause | 0-60% |
| Inspiratory flow | 5-75 L/min |
| PEEP | 0; 2-20 cmH ₂ O +/- 2 cmH ₂ O |
| Volume of CO ₂ absorber | 1.5 Liter |
| Ultrasonic Flow Sensor | |
| Flow measurement range | 1-120 L/min |
| Measurement frequency | 100 Hz |
| Flow resistance | < 2 cmH ₂ O at 60 L/min |
| Cleaning | Autoclavable, non-disposable |
| Agent Identification | |
| Technology | Infrared, automatic agent identification |
| Response time | < 30 seconds |
| Effect of multiple agents | Dual agent ID with measurements |
| Electronic flow measurement | |
| Accuracy | +/- 0.12 LPM or +/- 10%, whichever is greater |
| Resolution | 0.01 LPM |
| Serial Interface | |
| Port | RS232 |
| Protocols | Vitalink |
| Data available for export | All fresh gas flow, ventilation, VPO and agent data. IPM data (option). |

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