Puritan Bennett™ 840 Ventilator
Your Foundation for Ventilation Excellence

Healthcare providers and patients throughout the world depend on Covidien for state-of-the-art ventilation therapy. Whether your needs include acute care for critically ill patients with chronic respiratory failure or a solution to transition patients to home care, we have the right system for the task at hand.

Healthcare professionals know all too well the range of issues that affect ventilation outcomes today. At Covidien, our innovations are systematically tackling the issues that truly matter: patient safety, clinician support and medical efficacy. The Puritan Bennett™ 840 ventilator is another example of how we’re helping medical professionals improve ventilation outcomes and quality of life for their patients.

THREE DIMENSIONS OF EXCELLENCE BUILT INTO EVERY PURITAN BENNETT™ 840 VENTILATOR

**Patient Safety**—Alarm systems, high-efficiency filters and self-diagnostic testing work in concert to help ensure that the Puritan Bennett 840 ventilator delivers effective and efficient ventilation.

**Medical Efficacy**—The intuitive user interface of the Puritan Bennett 840 ventilator, combined with our commitment to clinician support, which includes optional custom software and accessible technical support, create a ventilation solution that is in line with your clinical needs.

**Healthcare Efficiency**—The Puritan Bennett 840 ventilator can be customized with advanced technology focused on supporting patient-ventilator synchrony. Improved patient-ventilator synchrony has been shown to facilitate spontaneous breathing, thereby reducing days on ventilation, patient costs and risks associated with mechanical ventilation.

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**YOU LIVE AND BREATHE EXCELLENCE IN VENTILATORY CARE. SO DO WE.**
Impressive Standard Features are Just the Beginning

The Puritan Bennett™ 840 ventilator provides a solid foundation on which to build your ideal ventilation solution. With the addition of optional advanced technology upgrades, this ventilator can meet the specific needs of practically every patient type you care for—from neonatal patients weighing as little as 300 grams to adult patients weighing as much as 150 kg.

**Puritan Bennett™ 840 Ventilator Cart**
Offers easy maneuverability, lightweight performance and full functionality in a cost-effective package

**DualView LCD Touch Screen**
Provides an intuitive, easy-to-use interface with an “at-a-glance” format that allows quick interpretation of data and immediate adjustment of settings

**Noninvasive Ventilation (NIV) Mode**
Greater flexibility for all patient ranges with noninvasive ventilation

**Puritan Bennett™ 806 Compressor (optional)**
Improves versatility by providing an alternative air source if compressed wall air or bottled air is unavailable

**Puritan Bennett™ 840 Ventilator Cart**
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**A HISTORY OF INNOVATION**

Covidien is committed to protecting your investment by continuing to develop features that improve patient care and outcomes. Since its inception, the Puritan Bennett™ 840 ventilator has undergone a steady stream of improvements and enhanced functionality that are backward compatible with all Puritan Bennett 840 ventilators.

- **1998**: Puritan Bennett™ 840 Ventilator Introduction
- **1999**: NeoMode Software
- **2000**: Bi-Level Mode Tube Compensation
- **2001**: Larger GUI and Communication
- **2002**: VV+
- **2003**: Respiratory Mechanics (RM) and New Trending-enabled (TE) Board +
- **2005**: Electromagnetic Interference (EMI) Upgrades
- **2006**: PAV™
- **2007**: NIV
- **2008**: Trending
- **2009**: Leak Compensation
- **2009**: NeoMode Upgrade Extended Backup Power Source
Promoting Safety for Patients and Clinicians

The Puritan Bennett™ 840 ventilator provides medical professionals with reliable, proven ventilation tools and technology you need for safe and effective ventilation of your patients. This includes a full suite of features focused on both patient safety, and the safety of hospital staff and hospital visitors, including the following:

- **Circuit disconnect detection**—Monitors circuit pressure and effective patient volume to reliably detect circuit disconnection
- **Automatic patient detection**—Designed to prevent inadvertently setting the ventilator into any type of standby condition in which there is no ventilation
- **Ongoing background checks**—Continuously assesses the proper function of the ventilator’s electronics and pneumatics hardware during ventilation
- **Heated expiratory filters**—Trap pathogens from the expiratory breath, helping limit the spread of hospital-acquired infections**

A unique expiratory heating process shields patients and clinicians from exposure to viruses and bacteria from exhaled gases. Combined with the N100-rated filter, the Puritan Bennett 840 ventilator heated expiratory filtration system is capable of filtering 99.97% of particles of the most penetrating size.4

EXTENDING VENTILATORY EXCELLENCE ACROSS YOUR ORGANIZATION

Many facilities must ensure that their ventilators are ready to support any patient type, in any area of care. The NICU is one area that presents unique ventilatory challenges, requiring a truly specialized approach. In order to accommodate this need, the Puritan Bennett™ 840 NeoMode 2.0 software option brings a full suite of functionality that is focused on effective and accurate ventilation of neonates, including the ability to provide BTPS compensated tidal volume delivery as small as 2 mL for neonates weighing as little as 300 grams.

**See filter specifications for filtration rating.**

† The Volume Ventilation Plus Software option for the Puritan Bennett 840 Ventilator is a standard feature of the Puritan Bennett 840 Ventilator Patient Care Software Package.
Increasing the Efficiency of Your Ventilation Strategy

Achieving patient-ventilator synchrony is essential to improving the efficiency of ventilatory support. The Puritan Bennett™ 840 ventilator can be customized with advanced technology that can help maintain patient-ventilator synchrony. Improving synchrony has been shown to facilitate spontaneous breathing and reduce days on ventilation, thereby reducing patient costs and risks associated with mechanical ventilation. This advanced technology is reflected in the following features:

- **Proportional Assist™* Ventilation Plus (PAV™*+) Software**—Delivers positive airway pressure that is proportional to your patients’ inspiratory efforts during spontaneous breathing
- **Volume Ventilation Plus (VV+)**—Offers improved comfort and synchrony, while offering a way to maintain targeted tidal volumes with minimal required pressure
- **Bi-Level Mode**—Uses augmented pressure ventilation for unrestricted spontaneous breathing at any moment of the ventilatory cycle

Other features focused on improving healthcare efficiencies include the following:

- **Leak Compensation**—Improves neonatal ventilatory care by helping to minimize the effect of leaks associated with both invasive and noninvasive ventilation
- **Tube Compensation**—Automatically compensates for resistance in gas flow through the endotracheal or tracheostomy tube
- **Trending Software**—Monitors patient data and events for up to 72 hours and trends up to 58 parameters

ENHANCED SAFETY AND EFFICIENCY THROUGH EXTENDED BATTERY LIFE

Whether there’s a power outage because of a natural disaster or an intrahospital transfer, the battery life of the ventilator dictates whether another means of ventilation is necessary. The Puritan Bennett 840 ventilator with the Puritan Bennett™ 803 extended backup power source (BPS) helps minimize these risks by providing four hours†† of continuous battery backup power during power outages or other emergencies.

†† Assumes the following: hardware—a new, fully charged 1- or 4-hour BPS, a Xena board and a 10.4-in. GUI; ambient environmental temperature—20° C to 25° C; default ventilator settings—for an IBW of 70 kg, tidal volume (VT) at 510 mL and respiratory rate (f) at 10/min.
Helping Clinicians Achieve the Best Possible Outcomes

Medical professionals want an intuitive, easy-to-use and thoughtfully designed user interface that clinical staff can easily adopt and operate. The Puritan Bennett™ 840 ventilator features the DualView LCD touch screen, providing one screen dedicated to patient monitoring and another screen dedicated to ventilator settings. This makes it easier to read patient data while making immediate adjustments of settings. The Puritan Bennett 840 ventilator also supports communication with certain patient monitoring and hospital information systems.

When it comes to the service and support of your ventilation solution, Covidien offers some of the most comprehensive field service programs in the ventilator industry. From field-based warranty and repair services to free online educational programs at our Center for Clinical Excellence, Covidien provides a wide range of support for the Puritan Bennett 840 ventilator.

The Center for Clinical Excellence is accredited by the American Nurses Credentialing Center (ANCC), the California Board of Registered Nursing and the American Association for Respiratory Care (AARC). The Center for Clinical Excellence is a free online service that offers self-paced educational programs focusing on ventilator management strategies, cardiopulmonary physiology and disease, and relevant technology. Each course includes convenient post testing and a printable certificate upon course completion.
VENTILATOR OPTIONS FOR EVERY AREA OF CARE

Whether you choose one of our prebuilt ventilators or to simply upgrade the base Puritan Bennett™ 840 ventilator with the software and hardware packages that fit your needs, the end result is a cost-effective, highly efficient ventilator solution designed to help you improve ventilation outcomes and quality of life for your patients.

1. Puritan Bennett™ 840 Neonatal Ventilator
   Tidal volume—2 mL to 315 mL
   Patient weight—300 g to 7 kg

2. Puritan Bennett™ 840 Pediatric-Adult Ventilator
   Tidal volume—25 mL to 2,500 mL
   Patient weight—7 kg to 150 kg

3. Puritan Bennett™ 840 Universal Ventilator
   Tidal volume—2 mL to 2,500 mL
   Patient weight—300 g to 150 kg

PURITAN BENNETT™ 840 VENTILATOR SETTINGS

- Ideal body weight (IBW): 0.3 to 7.0 kg with NeoMode 2.0 (0.66 to 15 lbs), 7.0 to 24 kg (15 to 53 lbs), 25 to 150 kg (55 to 330 lbs)
- Modes: Assist/Control (A/C), synchronized intermittent mandatory ventilation (SIMV), or spontaneous (SPONT), Bi-Level
- Software Options: NeoMode 2.0, Leak Compensation, Tube Compensation, Bi-Level, Volume Ventilation Plus (Volume Control Plus and Volume Support), Proportional Assist™ Ventilation Plus (PAV™+), Respiratory Mechanics and Trending
- Mandatory breath types: Volume Control (VC), Pressure Control (PC) or Volume Control Plus with Volume Ventilation Plus option
- Spontaneous breath types: Pressure Supported (PS), Volume Supported (VS), Proportional Assist (PA), none
- Vent type: Invasive or Noninvasive
- Pressure support ($P_{SSUPP}$): 0 to 70 cm H$_2$O
- Rise time (%): 1% to 100%
- Expiratory sensitivity ($P_{SENS}$): 1% to 80%; 1 L/min to 10 L/min with PAV™+
- Tidal volume ($VT$): 25 to 2,500 mL, 2 to 315 mL with NeoMode
- Respiratory rate ($f$): 1.0 to 100 /min, 1 to 150 /min with NeoMode
- Peak inspiratory flow ($V_{MAX}$): 3 to 150 L/min for IBW > 24 kg; 3 to 60 L/min for IBW ≤ 24 kg, 1 to 30 L/min with NeoMode
- Flow pattern: Square or descending ramp
- Plateau time ($T_{PL}$): 0.0 to 2.0 seconds
- Inspiratory pressure ($P_{I}$): 5 to 90 cm H$_2$O
- Constant during rate change: Inspiratory time ($T_{I}$), I:E ratio or expiratory time ($T_{E}$)
- Inspiratory time ($T_{I}$): 0.2 to 8.0 seconds
- I:E ratio: ≤ 1:299-4.00:1
- Expiratory time ($T_{E}$): TE ≥ 0.2 second
- Trigger type: Pressure ($P_{TRIG}$) or flow ($V_{TRIG}$, Flow-by flow triggering)
- Pressure sensitivity ($P_{SENS}$): 0.1 to 20 cm H$_2$O below PEEP
- Flow sensitivity ($V_{SENS}$): 0.2 to 20 L/min, 0.1 to 10 L/min with NeoMode
- O$_2%$: 21% to 100%
- PEEP: 0 to 45 cm H$_2$O
- Apnea ventilation: Apnea mandatory type-volume control (VC) or pressure control (PC)
- Apnea flow pattern: Square or descending ramp
- Apnea peak flow ($V_{MAX}$): ≥ 1.0 L/min to ≤ 30 L/min, ≥ 3.0 L/min to ≤ 60 L/min, ≥ 3.0 L/min to ≤ 150 L/min
- Apnea tidal volume ($VT$): 3 mL to 315 mL for neonatal; 25 mL to 2500 mL for ped/adult
- Apnea inspiratory pressure ($P_{I}$): 5 to 90 cm H$_2$O
- Apnea inspiratory time ($T_{I}$): 0.2 to 8.0 seconds
- Apnea interval ($T_{A}$): 10 to 60 seconds
- Apnea respiratory rate ($f$): 2.0 to 40 /min
- Apnea O$_2%$: 21% to 100%
- Apnea expiratory time ($T_{E}$): ≥ 0.2 seconds
- Disconnect sensitivity ($D_{SENS}$): 20% to 95% or OFF in NIV
- Humidification type: Heat-moisture exchanger (HME), nonheated expiratory tube or heated expiratory tube
- Humidification volume: 100 to 1,000 mL
- Patient circuit type: Pediatric, adult or neonate with NeoMode option
### Standard Accessories

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<thead>
<tr>
<th>Flex arm</th>
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<td>Inspiratory bacteria filter</td>
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<td>Expiratory bacteria filter and collector vial</td>
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<td>Disposable filter (D/X800, carton of 12)</td>
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<td>Test lung</td>
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<td>Oxygen hose assembly, DIS (U.S.)</td>
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<tr>
<td>Air hose assembly, DIS (U.S.)</td>
<td>4-006541-00</td>
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<tr>
<td>Power cord (North America)</td>
<td>4-071420-00</td>
</tr>
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### Operator's and technical reference manual

- English: 4-075609-00
- Spanish: 4-070147-00

### Software Options

| NeoMode 2.0 Software Option | 10051492 |
| Leak Compensation Software Option | 10035870 |
| Tube Compensation Software Option | 4-076371-00 |
| Bi-Level Software Option | 4-076064-00 |
| Volume Ventilation Plus Software Option | 4-078126-00 |
| PAV™** + Option Kit | 4-078203-00 |
| Respiratory Mechanics Option Kit | 10019218 |
| Trending Software Option | 10020408 |

### Optional Accessories

- Service manual, English: 4-070089-00
- Wall-Air Water Trap Kit: 10046823
- Cylinder Mounting Bracket Kit: 10046822
- Test lung: 4-000612-00
- Test hose: 4-018506-00
- Oxygen hose assembly, DIS (U.S.): 4-001474-00
- Air hose assembly, DIS (U.S.): 4-006541-00
- Power cord (North America): 4-071420-00

### Humidifiers and Breathing Circuits

- Reusable, adult, with heated wire, for Fisher & Paykel: G-061235-00
- Reusable, adult, without heated wire: G-061208-SP
- Reusable, pediatric, with heated wire, for Fisher & Paykel: G-061237-00
- Reusable, pediatric, without heated wire: G-061223-00

### Humidifiers and Breathing Circuits (continued)

- Humidifier Base: 4-MR850-00
- Puritan Bennett™ MR 850 Starter Kit: 4-070773-00
- Fisher & Paykel Mount Kit for Universal Bracket: 10081874
- Hudson Mount Kit for Universal Bracket: 10081875
- Kendall A2000 Mount for Universal Bracket: 10081876
- Fisher & Paykel Shroud Kit: 10081877
- Mounting Plate - Fisher & Paykel Shroud: 10081785
- NeoMode 2.0 Software Option: 10051492

### Optional Accessories

- Service manual, English: 4-070089-00
- Wall-Air Water Trap Kit: 10046823
- Cylinder Mounting Bracket Kit: 10046822
- Test lung: 4-000612-00
- Test hose: 4-018506-00
- Oxygen hose assembly, DIS (U.S.): 4-001474-00
- Air hose assembly, DIS (U.S.): 4-006541-00
- Power cord (North America): 4-071420-00

### Ordering Information


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