

Tender enclosure



AEOLUS

critical care ventilator



Introduction

Aeolus is Medec's new intensive care ventilator for adult and pediatric patients. Aeolus is a microprocessor-controlled driven ventilator intended to provide continuous or intermittent ventilatory support for the care of patients who require mechanical ventilation.

Aeolus is a powerful ventilator, capable of delivering flow rates up to 180 L/min, guaranteeing the highest precision ventilation over an extensive set of ventilation modes, as well as in non-invasive ventilation. Volume-controlled ventilation can provide a tidal volume as low as 5 ml, PRVC as low as 5 ml.

Aeolus comes with an ergonomic trolley and with an 18.5" capacitive full-colour touch screen display which provides maximum flexibility to different care set-ups. Its unique PureTouch® user interface allows you to adjust all ventilation parameters and choose out of 7 waveforms like pressure, flow, volume, P-V loop, F-V loop, CO₂ and O₂ with a touch of a finger.

A wide range of ventilation modes supports all types of patients: (S)CMV-PC, SIMV-PC, PRVC, Bi-Level/APRV, (S)CMV-VC, SIMV-VC, CPAP/PSV, BAL-EXP and Continuous Flow. The following parameters can be adjusted: FIO₂, P_{INSP}, PEEP, RR, I:E, trigger, rise time, tube compensation, sigh, P_{SUPPORT}, TV, Insp. trigger, Exp. trigger, sensitivity, flow.

Several steps of operation are supported with graphical simulations that help physicians to assess settings. In addition, the Tube Compensation allows continuous compensation for the work of breathing caused by the endotracheal tube.

A comprehensive list of measured values is displayed: TV_{EXP}, TV_{EXP SPONT}, TV_{EXP MAND}, TV_{INSP}, MV_{EXP}, MV_{EXP SPONT}, MV_{INSP}, P_{PEAK}, PEEP, P_{PLATEAU}, P_{MEAN}, P_{MIN}, RR_{TOTAL}, RR_{SPONT}, FIO₂, FLOW_{PEAK I/E} and V_{LEAK}.

The real-time simultaneous waveforms, loops, trends and measured values provide a complete overview of the current ventilation situation and can be configured as required. A complete logbook of events, alarms and ventilation parameters can also be displayed and easily exported via USB.



Aeolus offers precise volume monitoring and responsive trigger reaction. Its inspiratory flows up to 180 L/min, enabling optimal non-invasive ventilation with smart leakage compensation.

Optional the Aeolus comprises a mesh-type nebulizer and bronchial suction with automatic oxygenation, as well as a multitude of support functions such as: software for non-invasive monitoring of EtCO₂, a non-expirable paramagnetic O₂ sensor and continuous oxygen concentration monitoring.

After switching on the Aeolus, the physician can choose between default settings of ventilation parameters and alarms limits or adjust them based on patient weight and their experience. Ventilation modes and settings can also be configured to meet the physician's daily demands.

Aeolus' alarm system classifies all alarms according to clinically relevant priorities and shows a straightforward message to inform the user.

Moreover, Aeolus can be upgraded with unique functionalities:

- qCON (Depth of Hypnosis Index), allows you to monitor consciousness of each individual patient providing improved patient outcome.
- qNOX (Level of Nociception Index), allows you to monitor the nociception (response to pain stimulus) during general anesthesia or in intensive care. When using nociception monitoring, analgesics / sedation can be dosed more accurately.



Aeolus includes the following standard accessories:

- Expiratory valve and flow sensor
- Extendable arm with tubing holder
- High-pressure hose for O₂ / air supply with NIST connector
- Galvanic Oxygen Sensor (optional: Paramagnetic)
- Power cord
- Four-wheel trolley

Optional accessories:

- Heater-humidifier
- Nebulizer kit
- Capnography sensor



Technical Data

Environment

During operation		
	Temperature	10 - 40°C (50 - 104°F)
	Pressure	570 - 1060 hPa (428 - 795 mmHg)
	Humidity	10 - 95% (non-condensing)
During storage / transportation		
	Temperature	-20 - 50°C (-4 - 122°F)
	Pressure	500 - 1060 hPa (375 - 795 mmHg)
	Humidity	10 - 95% (non-condensing)

Dimensions and weight

Trolley		
	Height	135.6 cm (53.4 in)
	Width	68.2 cm (26.9 in)
	Depth	59.0 cm (23.2 in)
Display		
	Type	TFT full-colour capacitive touch screen
	Diagonal size	46.9 cm (18.5 in)
Casters		
	Diameter	10.0 cm (3.9 in)
	Brakes	4 casters
Tubing holder		
	Length	125 cm (49.2 in)

Power supply

Mains power		
	Mains power	100 - 240V, AC 50-60 Hz
Battery		
	Type	Rechargeable
	Operating time	Minimum 180 minutes

Gas supply

Central supply		
	O ₂ /Air range	2.7 - 6 bar / 39.2 - 87 psi / 270 - 600 kPa
	Oil content	<0.1 mg/m ³
	Particles	dust-free air (filtered with pores: <1µm)
Backup supply		
	O ₂ range	2.7 - 6 bar / 39.2 - 87 psi / 270 - 600 kPa
	Oil content	<0.1 mg/m ³
	Particles	dust-free air (filtered with pores: <1µm)

Ventilator

Pneumatically driven, electronically controlled		
	Ventilation modes	CMV-VC S-CMV-VC SIMV-VC CMV-PC S-CMV-PC SIMV-PC BiLevel/APRV PRVC CPAP/PSV BAL-EXP Continuous Flow
Parameter setting range		
	Tidal volume (V _T)	5 - 2000 ml (in VCV mode, in PCV: 1-2000ml)
	Resolution	increments of 1 ml
	Inspiration time (T _{INSP})	0.15 - 30 sec
	Resolution	increments of 0.01 sec
	Expiration time (T _{EXP})	0.15 - 30 sec
	Resolution	increments of 0.01 sec
	Positive End-Expiratory Pressure (PEEP)	0 - 40 cmH ₂ O
	Resolution	increments of 1 cmH ₂ O
	Fraction of inspired O ₂ (FIO ₂)	21 - 100 Vol. %
	Resolution	increments of 1 Vol. %
	Respiratory rate	2 - 100 bpm
	Resolution	increments of 1 bpm

	Flow trigger	0.2 - 15 L/min
	Resolution	increments of 0.1 L/min
	Pressure trigger	0.4 – 10 cmH ₂ O
	Resolution	increments of 0.1 L/min
	Inspiration pressure (P _{INSP})	6 - 70 cmH ₂ O
	Resolution	increments of 1 cmH ₂ O
	Rise Time	slow – medium - fast
	Apnea time	1 - 60 sec
	Resolution	increments of 1 sec
	Inspiratory pause	0 - 60 %
	Resolution	increments of 1 %
	Pressure support (P _{SUPP})	0 - 70 cmH ₂ O
	Resolution	increments of 1 cmH ₂ O
	End Flow	5 – 70 %
	Resolution	increments of 1 %
	Pressure support High(P _{SUPP} High)	0 - 70 cmH ₂ O
	Resolution	increments of 1 cmH ₂ O
	End Flow High	5 – 70 %
	Resolution	increments of 1 %
	Tube compensation	0 - 100 %
	Resolution	increments of 1 %
	Sigh frequency	50 - 150 bpm
	Resolution	increments of 1bpm
	Sigh volume	7.5 - 2000 ml
	Resolution	increments of 1 ml

Interfaces

External connections		
	Serial ports	1 x
	Connector	9 pole D-sub connector
	USB port	1 x
	Type	USB 2.0
	Connector	Type A
	Network port	1 x
	Connector	RJ45
	Nurse call system	1 x connection



General

Latex use	
	No parts of the breathing system contain latex. All parts which can come into contact with the patient or patient gases are latex-free.
Classification according to IEC 60601-1-2:2007	
Class I equipment	Type of protection against electrical shock
Type B equipment	Degree of protection against electrical shock
Continuous operation	Mode of operation
Classification according to medical device directive 2017/45	
Critical care ventilator classification	Class II b
EMC	
Electromagnetic compatibility	Tested as per IEC 60601-1-2:2007

About Medec



40 years of experience

Forty years ago Medec started manufacturing accessories for anaesthesia and critical care. It didn't take long before the first anaesthesia workstation was introduced. Today Medec offers a wide variety of products, ranging from basic ventilators to the most sophisticated workstations.

Global presence

On a daily basis over 20.000 patients in over 100 countries are ventilated by a Medec system. Medec has a vast international network of authorised dealers specialised in anaesthesia and critical care. Our dealers receive comprehensive product training to support customers in an optimal way.

Made in Belgium

Medec products are developed and manufactured at our factory in Aalst, Belgium. In-house research and development is the driving force behind constant innovation. All manufactured equipment is subject to a strict Quality Management System. Medec is ISO certified and its product range is CE marked.



a smart choice.

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