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Difficult Environments When oxygen is limited

Pneupac® emergency and transport ventilation

Emergency and transport ventilation are now an established part of emergency medical practice throughout the world. Many portable ventilators exist to perform these tasks but are dependent to some extent on power or compressed gas supplies such as oxygen cylinders with a life of only about 30 minutes. While this does not pose a serious problem in urban locations, difficulties may arise in more remote locations or unusual circumstances **where oxygen is limited** and resupply difficult.

Designed originally for the military following the Gulf war, the **Pneupac® compPAC™** is a **portable, gas powered ventilator (PGPV)** that provides **life support** to patients in a wide range of situations **where conventional resuscitation equipment is not adequate** (war zones, toxic environments, mass disasters).

The Pneupac® compPAC™ ventilator has the unique ability to be driven from an **external gas supply** or from its **internal compressor**. When driven by oxygen the Pneupac® compPAC™ will deliver 100% or 45% O₂ using the air mix mode, extending cylinder life.

Alternatively, when oxygen is limited, the internal compressor will drive the ventilator using filtered air drawn from the surrounding environment. To enrich the oxygen concentration of the filtered air, compressed oxygen can be added. Offering maximum flexibility, the internal compressor can be powered by either the internal battery or an external electrical supply.

For use in toxic environments, compPAC™ has a NBC filter as standard. In addition it is equipped with a chemically hardened case with rubber boot and sealed battery compartment making it suitable for the harshest environments including wet terrain.

Used by a number of military and civil organizations, the Pneupac® compPAC™ is the No. 1 choice for ventilation in difficult environments.



Pneupac®

Air mix facility

When driven by oxygen, an air entrainment device allows air mixing to deliver either 100% or 45% oxygen. In the air mix mode, cylinder life is extended by up to three times

Fixed pressure relief with audible alarm

Prevents generation of excessive pressure in the patient's lungs

Separate controls for minute volume and frequency

Provides easy selection and greater control of ventilation parameters

Rugged and durable for use in the toughest of situations

Rugged structural case with rubber boot and control panel light for easy viewing of the control panel in low light conditions. Drop, vibration and water resistant tested

Integrated electronic pressure monitoring/alarm system

Incorporates an airway pressure indicator and visual & audible alarms for high pressure, continuous pressure, low pressure/disconnect, low gas supply pressure, and low battery

Versatile options for driving the ventilator

The ventilator can be driven from an external gas supply such as bottled oxygen, or when oxygen is limited, it can be driven on filtered ambient air using its internal compressor

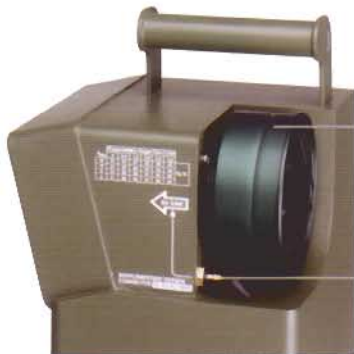
Versatile options for powering the internal compressor

The internal compressor can be powered from a variety of sources including an internal rechargeable NiCad battery, external 24/28V d.c. supply or AC power using a PS11 unit



compPAC

DRIVE OPTIONS and OXYGEN CONCENTRATIONS
The compPAC can be driven in the following ways, each of which delivers different oxygen concentrations to the patient:
1. Oxygen from a bottled O2 source. This for O2 which can be selected in:
• 100% oxygen
• 45% oxygen
2. The provided internal oxygen concentration of 100%.
3. Oxygen from a bottled O2 source with 45% O2 from source 45.21 & 24.98.
The provided delivered oxygen concentration of 45%.
4. Ambient atmospheric pressure, sea level air. This can be selected in:
• Internal NiCad battery or
• external 24/28V d.c. supply or
• external 115V a.c. supply (via PS11 power supply) or
• external 24/28V d.c. supply (via PS11 power supply)
This provides delivered oxygen concentration of 21%.
5. Internal compressor (working compressor, built in with low pressure in delivery system). Power source is 24/28V d.c. supply. This provides delivered oxygen concentration in accordance with the supplementary oxygen connection, when lowest adjacent to the supplementary oxygen connection.



NBC Filter

Helps to protect against nuclear, biological and chemical hazards. Also prevents the entrance of dust and dirt into the ventilator patient circuit

Oxygen enrichment facility

When using the internal compressor to drive the ventilator, the delivered oxygen concentration can be increased by adding oxygen from a low-pressure supply

Technical Data	Pneupac® compPAC™
Principle of Operation	Time/Volume Cycled
User Type	Adults, children & infants greater than 44 lbs (20 kgs)
Power Source for Ventilation	Dry, oil free filtered gas, 305 to 600kPa at 45 L/min (44 to 87 psig at 45L/min)
Internal battery	NiCad rechargeable, field exchangeable, NATO No. 6140-99-620-8057
External Electrical	24 - 28 Vd.c supply at 3A
Minute Volume	6 - 14 L/min
Frequency	10 - 30 b/min
Flow Range	10 - 40 L/min
I:E Ratio	Fixed 1:1:8 (nominal)
Air Mix	45% or 100% O ₂ when using oxygen as gas source 21% to 64% when using internal compressor with supplementary oxygen
Pressure Relief with Pneumatic Audible Alarm	COM200: fixed at 60 x100Pa (60cmH ₂ O); COM200HD: fixed at 40 x100Pa (40cmH ₂ O)
Electronic Pressure Monitoring/Alarm System	Includes visual and audible alarms for high pressure, continuous pressure, low pressure/disconnect, low gas supply pressure and low battery
Airway Pressure Indicator	-10 to +100 x100Pa (-10 to +100cmH ₂ O)
NBC Canister	Filter efficiency is at least 99.99% efficient against a 0.3 micron mass median aerodynamic diameter aerosol challenge at 32 L/min; Airway flow resistance at 32 L/min :1 to 1.7cmH ₂ O; Connector size: 40mm DIN - NATO compatible threads
Dimensions	15.3H x 8.2W x 8.2D in (390H x 210W x 210D mm)
Weight	18.74 lbs complete with NiCad battery (8.5 kgs)
Standards	EN60601-1, EN794-3: 1999, including drop, vibration and water resistant testing
Regulatory Compliance	510(k): K021841
NATO Catalogue No.	6530-99-364-0032

Accessories

The Pneupac® compPAC™ can be fitted with a NiCad battery to drive the internal compressor and alarm system. It provides up to 4 hours of operation in the field and can be charged internally or externally from an auxiliary electrical supply.

To charge the battery or drive the compressor and alarm system from an auxiliary power supply, a PS11 unit is available in addition to the standard 24/28 volt-open ended vehicle power supply lead.

The compPAC™ rugged structural carry case with pull handle and castors provide extra protection plus easy transport and storage. It has compartments to house a wide range of accessories including a battery, PS11 unit, patient circuit, masks and regulator.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

THE DETAILS GIVEN IN THIS LEAFLET ARE CORRECT AT THE TIME OF GOING TO PRESS. THE COMPANY HOWEVER, RESERVES THE RIGHT TO IMPROVE THE EQUIPMENT SHOWN.

For further information, please call your Smiths Medical distributor or Smiths Medical, Patient Monitoring and Ventilation at 262-542-3100 or 800-558-2345

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