

## MRI-compatible, pneumatically-driven ventilator

### Preset volume and flow rate for adult and pediatric patients

The Penlon Nuffield 200 anesthesia ventilator is compact, powerful and easy to use. You can replace the standard patient valve with a Newton Valve and the ventilator range is further extended to include the ventilation of small infants, neonates and premature babies – a considerable achievement for a small, inexpensive ventilator.

The Nuffield 200 has four controls that provide a wide range of settings, enabling a constant flow during the inspiratory phase and variability of I:E settings. Plus, a suitable ventilator alarm and pollution control system is available for use with the Nuffield 200, if required.



**Integrates with the  
DRE Integra SP II  
MRI-compatible  
anesthesia system**



#### **Simple Controls**

A wide range of settings enable a constant flow during the inspiratory phase and infinite variability of I:E settings.



#### **Manometer**

Respiratory manometer with a range of -20 to 100 cmH<sub>2</sub>O and zero adjustment facility.



#### **Newton Valve**

The Standard Patient Valve can be replaced with the Newton Valve for the ventilation of small patients.



#### **IDP Alarm**

A suitable ventilator alarm and pollution control system can be attached to the ventilator, if required.

### Specifications

#### Dimensions

10.6" H x 8.3" W x 4" D  
(270 mm H x 210 mm W x 100 mm D)

#### Weight

7.2 pounds (3.5 kg)

#### Drive Gas

Medical air or oxygen at 340 kPa  
(50 lbf/in<sup>2</sup>) – 410 kPa (60 lbf/in<sup>2</sup>)

#### Tidal Volume

- » 10 ml – 300 ml (Newton Valve)
- » 50 ml – 2000 ml (Standard Valve)

#### Frequency (cycle/min)

10 – 85 (cycle/min)

#### Frequency for HFPPV

60 – 125 (cycle/min)

#### Inspiratory Flow (liters per sec)

0.25 – 1.0 (independent and continuously variable)

#### I:E Ratio

Continuously variable and dependent on chosen I:E settings

#### Gas Consumption

Minute volume plus 0.1 liter/cycle to power fluid logic circuit

#### Minute Volume

1.0 – 30.0 liters

#### Inspiratory

- » Time: 0.2 – 2.0 sec. (independent and continuously variable)
- » Flow: 0.25 – 1.0 liters/sec (independent and continuously variable)
- » Pressure Relief: 60 cmH<sub>2</sub>O

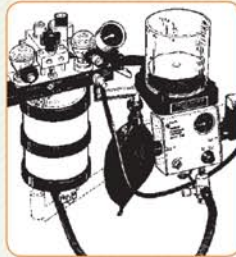
#### Expiratory

- » Time: 0.5 – 4.0 sec. (independent and continuously variable)
- » Resistance: 2.5 cm H<sub>2</sub>O/liter

#### Respiratory Manometer

Range -20 to +100 cmH<sub>2</sub>O with zero adjust facility

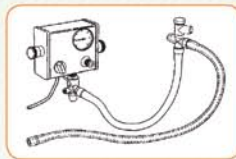
*Specifications subject to change without notice.*



### Nuffield 200 Circle System Module

A Circle System Module (CSM) has been developed specifically for the Nuffield 200 to enable both existing and new users to use the ventilator in a closed circuit system with a CO<sub>2</sub> absorber. The CSM incorporates a bag-in-bottle bellows and is available with a wide choice of mounting systems to suit individual requirements.

The CSM can, alternatively, be mounted to the Nuffield 200 from a wide choice of attachment fittings. This in turn allows the unit to be mounted onto your anesthesia machine utilizing existing mounting systems.



### Co-Axial System

The Penlon Co-Axial Circuit is a partial rebreathing system. The circuit delivers fresh gases to the patient via the inner tube of two concentric tubes, while expired gases return through the outer tube. The circuit is suitable for use with various patient sizes and can be employed for spontaneous, manually aided or mechanically controlled breathing. With this system it is essential, in order to prevent dilution to the anesthetic gases, that the ventilator is connected to the circuit via a one meter reservoir hose.

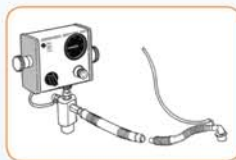


### Resuscitation

The Nuffield 200 may be adapted for resuscitation by interposing a resuscitation hose assembly between the patient valve and pneumatic control module. Using the system, the patient may be ventilated with the patient valve remote from the control module, and the ventilator driven from a suitable source of compressed medical air or oxygen.

### Bronchoscope Injectors

Where the automatic ventilation is required during bronchoscopy, the ventilator may be connected to a Sanders pattern injector by removing the patient valve and interposing the bronchoscope injector hose assembly.



### Newton Valve

The lowest tidal volume that can be achieved with the standard patient valve is 50 mL, delivered at an inspiratory flow rate of 15 L/min. For small infants, neonates and premature babies, however, smaller tidal volumes and lower inspiratory flow rates are required. The Newton Valve has been designed to replace the standard patient valve in order to convert the ventilator to a time-cycled pressure generator that is capable of delivering tidal volumes between 10 mL and 300 mL at flow rates between approximately 0.5 L/min. and 18 L/min.