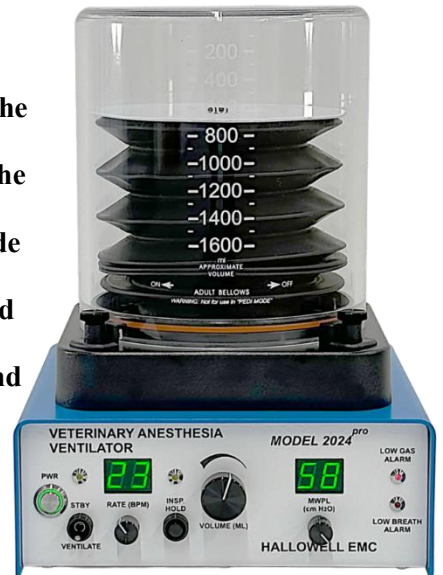


Hallowell Model 2024^{PRO} Series Ventilator

UPGRADED DIGITAL DESIGN
Includes a 2-Year Warranty



The Model 2024^{PRO} Series is a microprocessor-controlled unit providing the latest in electronic updates. The Model 2024^{PRO} digital design bridges the gap between our Model 2002^{PRO} analog design. There is an easy to view side-by-side summary of upgrades available in this document. All other parts, accessories, and consumables for the Model 2024^{PRO} and Model 2002^{PRO} have remained the same and interchange with each model. Also available is the Model 2024IE^{PRO}.



VENTILATOR FEATURES in both the 2024^{PRO} and 2024IE^{PRO}:

The single valve turns a total of nine and a half times; the first two and a half turns utilize the slight, minute changes for the pediatric animal patient while the remaining rotations are to be used with the adult and extra-large sized bellows and housings.

Low 50 psi Supply Gas Alarm – The Low Supply Gas Alarm is activated when the supply gas pressure drops below 35 psi (2.4 bar). During an alarm condition, the red light on the front panel is illuminated and a steady, continuous tone is heard. This alarm automatically resets when the pressure increases above 40 psi (2.7 bar).

Volume – Cycled microprocessor-controlled ventilator.

Time cycled - Ensures consistently spaced breaths. The possibility of stacking breaths or auto-PEEP is eliminated by keeping the I:E ratio constant at 1:2. This means that regardless of the respiratory rate, setting two-thirds of the breath will remain for expiration. The respiratory rate is adjustable from 6 - 40 breaths per minute (BPM).

Volume constant - Ensures that each delivered breath will have essentially the same volume, independent of changes in patient compliance and airway resistance. The deliverable tidal volume (TV) range is from approximately 20 cc to 3,000 cc.

Pressure Limited - Provides for patient safety by limiting the maximum working pressure (MWPL) to a user adjustable pressure range of 10 - 60 cm H₂O.

VENTILATOR FEATURE in the 2024IE^{PRO}:

Adjustable I:E Ratio - Normally, without this option, the I:E Ratio is fixed at 1:2, that is, 1/3 of the period of each breath is inspiration and 2/3 of each breath is exhalation. Regardless of the respiratory rate, the animal patient will always have 2/3 of the cycle to exhale. This I:E ratio can also be adjusted to a fixed value other than 1:2 at no extra charge.

The adjustable range is from 1:1 to 1:4. The pros and cons are that this option affords the operator more flexibility in dealing with animals that have compromised lung function. But during anesthesia most animal patients are lung healthy and the addition of this control can add to the complexity of setting the ventilator. For example, consider that you have a hypocapnic animal patient. To bring that animal patients' CO₂ level to a more normal range you must decrease the overall gas exchange, the Minute Volume (MV). Without this option, only one knob controls the MV, that is the Volume control. With this option, however, increasing the I:E ratio would also cause a reduction in MV.

All Hallowell Ventilators are equipped with dual airway pressure alarms that monitor and sound when the Peak Inspiratory Pressure (PIP) of any breath either exceeds the preset Maximum Working Pressure Limit (MWPL) or fails to reach 6 cm H₂O as in the case of a disconnect.

The Model 2024^{PRO} does not replace the Model 2002^{PRO}, the functionality of both units is still top of the line for veterinarian use. Technical Services, Replacement Parts and Repairs remain available and will continue for all HEMC units still in service.

Model 2024^{PRO} and 2024IE^{PRO} Series Ventilators

000A6757 - Model 2024^{PRO} Anesthesia Ventilator 0-300 ml; includes bellows, housing, and adapter.

000A6758 - Model 2024^{PRO} Anesthesia Ventilator 300-1600 ml; includes bellows and housing.

000A6759 - Model 2024^{PRO} Anesthesia Ventilator 1600-3000 ml; includes bellows and housing.

000A6760- Model 2024^{PRO} Anesthesia Ventilator 300-1600ml; also includes 0-300ml attachment.

000A6761 - Model 2024IE^{PRO} Anesthesia Ventilator with Adjustable I:E Ratio 0-300 ml; includes bellows, housing, and adapter.

000A6762 - Model 2024IE^{PRO} Anesthesia Ventilator with Adjustable I:E Ratio 300-1600 ml; includes bellows and housing.

000A6763 - Model 2024IE^{PRO} Anesthesia Ventilator with Adjustable I:E Ratio 1600-3000 ml; includes bellows and housing.

000A6764 - Model 2024IE^{PRO} Anesthesia Ventilator with Adjustable I:E Ratio 300-1600 ml; also includes 0-300ml attachment.

Model 2002IE Pro Series



Model 2024IE Pro Series



Summary of upgrades between the 2002^{PRO} and 2024^{PRO} Series.

The primary function of the newest unit provides the end user more precision digital ventilation. The 2024^{PRO} Series is a microprocessor-controlled unit providing the latest in electronic updates. The function of this version remains primarily the same as the previous Pro Series.

The following is a quick reference list of additions/upgrades between the 2002^{PRO} Series and 2024^{PRO} Series, all of these can be found in the **User Manual** for complete explanation and proper usage.

Overall unit:

The chassis is now powder coated white with black silkscreened lettering. Easier to clean with no overlay to damage. The covers are still powdered blue. Overall better medical look.

Front of unit:

- The Power Switch is now a backlit LED pushbutton switch.
- Added function of a Standby/Ventilate Switch w/LED.
- Rate Control w/digital display.
- MWPL Control w/precision digital display.
- Inspiratory Hold pushbutton with LED aid.
- Updated Alarm LEDs added to aid with unit operation. (MWPL, Low Breathing & Low Gas)

Rear of unit:

- Medical safety approved 12 volts, 2.1mm plug-in power supply brick.
- 2amp Fuse Holder
- Optional feature ports for Manual Remote Inspiratory Hold and Oxygen Flow Interrupter.

All previous consumables fit the 2024^{PRO} Series units.

After purchasing your new Model 2024^{PRO} Series ventilator keep in mind we do recommend your unit be made available at least once a year for our cleaning/calibration service.

000A2790 - Ventilator Calibration/ Cleaning

If you are having problems with your Ventilator, or would just like routine maintenance performed on it, send it in to us for our Calibration & Cleaning Service. Our knowledgeable technicians will service your machine till it's like new. Please call us at (413) 445-4263 before sending your machine back.

We will ask you a few simple questions and then issue you a Return Authorization number.

Hallowell EMC Loaner Program

This program is specifically designed for our established customers who are in need of a ventilator for a short period of time; this could be for a one-time procedure or to offset the time of sending their unit back for a Service/Cleaning & Calibration. Program document available upon request.