

Pro Series Ventilator Product Catalog Replacement Parts & Accessories Included





Featuring the ICU Non-Rebreathing Module, Microvent-II & the Anesthesia Workstation (AWS)



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Hallowell Model 2002 PRO & 2002 IEPRO Ventilator

Standard Features

The Model 2002 became our best-selling ventilator with the addition of a fine volume control valve. Now with the Model 2002 PRO we have simplified the Model 2002 with the replacement of the two volume control valve knobs to one volume control valve knob which has the functionality of both. In addition, we have added the previously optional Low Supply Gas Pressure Alarm to the list of standard features. All other parts and accessories for the Model 2002 PRO have remained the same.

Pro Series includes a 2 year Warranty.

*Also available the Model 2002IEPRÖ

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 yellow 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).

Electronic control - Eliminates the substantial driving gas required to operate pneumatically controlled ventilators.

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.

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.

*IE Ratio Control - The adjustable range is from 1:1.5 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 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 patient. To bring that patient's 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, which is the Volume control. With this option, however, increasing the I:E ratio would also cause a reduction in MV.

Model 2002 PRO and 2002 IE PRO Series Ventilators





000A5765 - Multiflow 2002^{PRO} Anesthesia Ventilator 0-300 ml.

000A5766 - Multiflow 2002^{PRO} Anesthesia Ventilator 300-1600 ml.

000A5767 - Multiflow 2002PRO Anesthesia Ventilator 1600-3000 ml.

000A5768 - Multiflow 2002^{PRO} Anesthesia Ventilator 300-1600ml w/ 0-300ml attachment.



000A5769 - Multiflow 2002IEPRO Anesthesia Ventilator with Adjustable I:E Ratio 0-300 ml.

000A5770 - Multiflow 2002IEPRO Anesthesia Ventilator with Adjustable I:E Ratio 300-1600 ml.

000A5771 - Multiflow 2002IEPRO Anesthesia Ventilator with Adjustable I:E Ratio 1600-3000 ml.

000A5772 - Multiflow 2002IE^{PRO} Anesthesia Ventilator with Adjustable I:E Ratio 300-1600 ml; also includes 0-300ml attachment.

Also Available

000A6560 -2002^{PRO} Anesthesia Ventilator Mobile Module

Details on following page.

Model 2002 PRO and 2002 IE PRO Series Ventilators

000A6560 -2002 PRO Anesthesia Ventilator Mobile Module

Includes 000A5768 Model 2002^{PRO} 300-1600ml with 0-300ml Attachment, Pedestal Stand, Mayo Tray, IV Pole Attachment, O2 DISS Dual Interface Attachment, Basket Attachment and Power Strip Assembly.

Can be ordered with 000A5772 Model 2002IEPRO.

This mobile module is a value—saving hundreds of dollars.





Related Part Numbers

000A5768—2002^{PRO} Vent. 000A0076—Pedestal Stand 000A6179—Mayo Tray 000A6185—IV Pole Att. 000A6190—Basket Att. 000A6192—O₂ DISS Int. Att 000A6193—Power Strip Att.



Model 2002^{PRO} and 2002IE^{PRO} Series Ventilators <u>Upgrade Options</u>

000A6541 -ICU Non-Rebreathing Module

This unit is a must have for every facility that uses a HEMC Pro Series Model Ventilator. This unit was produced during the Covid pandemic and is a game changer for ICU care!

Converts your Pro Series anesthesia ventilator into an ICU respirator.

Mounts conveniently under the vent.

No Anesthesia Machine Needed.



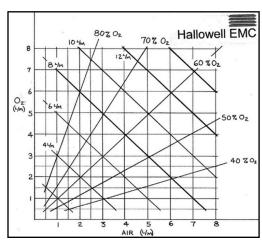
Model 2002^{PRO} and 2002IE^{PRO} Series Ventilators Upgrade Options

<u>000A6541 –ICU Non-Rebreathing Module Cont.</u>



Comes with FiO₂ Approximation Guide & O₂ Blending Nomogram Card

- \Diamond Equal flows yields about 60% O_2
- 3 times Air as O₂
 yields ~ 40% O₂
- \Diamond 3 times O_2 as Air yields $\sim 80\% O_2$



Hook-Up Supplies Included:

000A0489 - DISS O₂ Supply Hose, FxF 4ft Grn

000A2420B - Airway Press. Sampling Tee Assy

000A5267 - DISS O2 Supply Hose, FxF 18 in. Grn

000A6546 - DISS Air x O2 Supply Hose, F x F 4ft. Ylw

150A1691 - O2, DISS HT F Inlet x DISS Demand Outlets Y-Block (Grn)

150A6016 - O2, DISS F x 1/4"MNPT x 3/4"L, 90* Elbow

240A1455 - Humidifier Bubbler, Refillable

240A1457 - Exhalation Valve

200A2682 – Wye, Parallel 22mmOD x 22mmOD x 22mmOD/15mmID

202A2895 - Tube, gray BS w/cuffs 22mm x 36"

202A2896 - Tube, gray BS w/cuffs 22mm x 48" (2)

Model 2002 PRO and 2002 IE PRO Series Ventilators **Upgrade Options**

000A6558 - MRI Ventilator Conversion Kit w/O₂ DISS Inline Pressure Gauge



Introducing the New Hallowell MRI Conversion Kit.

This unit easily adapts to your existing HEMC Pro Series Model ventilators. Along with an updated design, the kit comes with 25' of extension tubing to reach your MRI environment, and the side mount panel has an O2 pressure gauge that will allow the input supply gas to be monitored at the unit.



This kit is designed for easy installation to your existing ventilator. Simply remove the left side instruction panel from the unit. Using the 4 screws removed, mount the panel gauge.



purchased unit or in our Document Library at www.hallowell.com



Full hook-up instructions available with Comes with optional use rubber feet for base bottom. Useful if the unit is not secured to an anesthesia machine.

> This unit can also be purchased with a new ventilator. The assembly will be ready right out of the box.

Model 2002^{PRO} and 2002IE^{PRO} Series Ventilators

Upgrade Options

<u>000A4632A</u> -*Remote Inspiratory Hold Push Button Installation Kit

Useful for CT or X-ray Machines. The remote inspiratory hold button allows the breathing cycle hold function to be initiated by the operator at a distance (up to 30ft) from the ventilator.

*This added option would consist of returning the controller portion of the ventilator for modification to accommodate the remote switch.

Also can be ordered with the purchase of a new machine.



<u>**000A4632C</u>**-*Remote Inspiratory Hold Push Button w/O₂ Flow Interruption Installation Kit</u>

Useful in MRI, CT or X-ray machines. The remote inspiratory hold button allows the breathing cycle hold function to be initiated by the operator at a distance (up to 30ft) from the ventilator. The O₂ flow interrupter stops the flow from the anesthesia machine at the same time as the hold. For MRI installation, see the document entitled "Installation of a Hallowell Ventilator in an MRI Environment with an MRI Compatible Anesthesia Machine".

*This added option would consist of returning the controller portion of the ventilator for modification to accommodate the remote switch.

Also can be ordered with the purchase of a new machine.



Model 2002 PRO and 2002 IE PRO Series Ventilators

Upgrades & Services

The Model 2002 PRO replaces both the Model 2000 and the Model 2002 with the functionality of both units in one machine. Technical Service, Upgrades and Repairs will still be available and continue on the 2000 and 2002 Models.

000A3017A – Upgrade Modification 2000/2002 to a 2002 PRO

A single multi-turn flow valve will replace the current coarse and fine flow valves of the Model 2000 and Model 2002 ventilators. The feature of the multi-turn valve controls the fine and coarse adjustments that can regulate the inspiratory flow from 0 to 100 lpm. The VOLUME control knob divides 100 liters/minute of drive gas into 9-1/2 turns of the valve. This option is particularly useful in making small changes to any VOLUME adjustment, as it provides increased resolution making volume adjustment much easier and precise with small dogs and cats.

After purchasing your new Model 2002^{PRO} Series Ventilator keep in mind we do recommend your unit be made available at least once a year for our cleaning/calibration service.

Each new unit is shipped out with a reminder card that is dated for the recommended 1st years service.

<u>000A2790</u> - Ventilator Calibration/ Cleaning Recommended Yearly

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 to like new condition. Please call us at (413) 445-4263 or email us through the website portal www.hallowell.com before sending your machine back.

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



Ask us about our 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 to offset the time of sending a unit back for a Service/Cleaning & Calibration.

Program documentation available upon request.

Model 2002^{PRO} and 2002IE^{PRO} Series Accessories Bellows and Housings



000A0487A - Bellows 0-300 mL for patients up to 30 lbs./13.5kg

000A0488A -- Bellows 300-1600 mL for patients from 25-220 lbs./11.5-100kg

000A1866 -- Bellows 1600-3000 mL for patients from 200-440 lbs./90-200kg

All bellows are made of a non-latex material. Bellows can be used as replacements for those used on the Matrx 3000 series, Fraser-Harlake 701, Penlon AV500 and 600, and the Ohmeda 7000. The housing can be used as a replacement for the AV 500 ventilators.







- (1.) 200A2288 -Bellows Housing, 0-300mL
- (2.) 200A2289 Bellows Housing, 300-1600mL
- (3.) 200A1867 -XL Bellows Housing, 1600-3000mL

Model 2002^{PRO} and 2002IE^{PRO} Series Accessories Pedestal Stand & Attachments



Convenient design allows multiple attachment configuration options.

These items will fit HEMC 1-3/4" diameter column pedestals.

All units can be customized to adapt to other stands or posts.

Model 2002 PRO and 2002 IE PRO Series Accessories Pedestal Stand & Attachments cont.



000A0076 - Five Leg 40" Stand w/Casters

This stand has a plate welded to the top of the column to mount the ventilator on the plate.

(Instructions available with the stand.)

000A6179 - Mayo Instrument Side Tray, PS

13-5/8"L x 9-3/4"W x 5/8"H (Includes Mounting Bracket 210A5193A)



000A6185 - IV Pole Attachment, PS

This attachment also comes with the original IV Pole rolling stand so this unit can be removed from the pedestal and used as a stand-alone set up.

000A6193 – Power Strip Attachment, PS (Hospital Grade, 4 outlet w/15'cord, 15 Amp)



Model 2002 PRO and 2002 IE PRO Series Accessories Pedestal Stand & Attachments Cont.



000A6192 - O2 DISS Dual Interface Attachment, PS

(Custom gas interfaces can be made to fit your gas supply hook-up.)



**Mounting for Pedestal Stand Attachments can be customized to fit other size columns **

No more maintenance calls!

Our NEW tool free design makes installation a snap with the comfortable knurled hand-tights. The tool free design allows these units to be just as easily removed, adjusted, and relocated by simply undoing the knurled knobs.

Units come with easy to read instructions.



Model 2002^{PRO} and 2002IE^{PRO} Series Accessories Pedestal Stand Basket Attachments







- (1.) 000A6189 –Basket Attachment #1, PS 10-1/2"L x 5"W x 13"H
- (2.) 000A6190 Basket Attachment #2, PS 9"L x 6"W x 11-1/2"H
- (3.) 000A6191 –Basket Attachment #3, PS BP Cuff

Model 2002 PRO and 2002 IE PRO Series Accessories (Stand) Mounting Options



000A6200
Articulating Wall Mount
For Ventilator





Includes: Mounting Plate (000A1868) & Mounting Arm (220A0083)

Permits attachment of the ventilator directly to the Matrx VMC. Mounting Arm Extension (220A0897) is also required for use with a VMS.

Model 2002^{PRO} and 2002IE^{PRO} Series Accessories (Stand) Mounting Options cont.

220A0897 – Mounting Arm Extension VMS

The mounting arm extension is designed to facilitate mounting our ventilator on the Matrx VMS anesthesia machine. It has two holes, one on each end, that are 5/8". The holes are 7 inches apart.



This bracket can be used with any, and most, rolling stand and anesthesia machine poles. The bracket attaches to the pole with a U-Bolt and the tool free hand tights are fastened to ensure a tight fit. This item is meant to be used in conjunction with 000A1868, 000A0899 and 000A6179. The hole in the bracket will accept the pins on those listed items, keeping your operating suite tidy and conveniently mobile.



000A1868 - Ventilator Mounting Plate



220A0083 - Mounting Arm

Permits attachment of the ventilator directly to the Matrx VMC. Must be used with Mounting arm extension (220A0897) for the VMS.



000A3397 - Mounting Kit for VMS Plus

Used when the ventilator sits on top of a shelf far from the bag connection. The screws are to fix the ventilator down so it does not fall off the shelf; the elbow goes on the back of the ventilator breathing system connection and points towards the floor. The tube is 48" instead of 36" and goes from the elbow to the bag connection.

Model 2002 PRO and 2002 IE PRO Series Accessories Replacement Parts



000A0481 - 0-300mL Attachment

This attachment groups three separate parts into one item number.

It includes a pediatric bellows (000A0487A), a 0-300mL bellows adapter (000A0486), and a 0-300mL acrylic bellows housing (200A2288).

All parts available separately.



000A0486-Bellows Adapter, 0-300mL



000A0510 – Bellows Base Assembly

Includes: Black base, four thumbscrews, four bayonet locks, pop-off valve, and three red pop-off valve thumbscrews.



000A0485 - Pop-Off Valve

Please refer to your Operating Manual for directions on cleaning the Pop-Off Valve.



210A2344 - Thumbscrews for Bellows Base (4pk.)



210A2343 - Thumbscrews for Pop-Off Valve (3pk.)

Model 2002^{PRO} and 2002IE^{PRO} Series Accessories Replacement Parts Cont.



000A2420B – Airway Pressure Sampling Tee W/Tubing

This device connects the breathing system pressure to our Model 2000, 2002, and 2002 PRO Ventilators enabling the high pressure limit and low breathing system pressure alarms.



000A0495 – Drive Gas Tube Model 2000, 2002, 2002 PRO



201A1615 -- Breathing System Tubing, Clear 22mm x 36 inches (915mm) 201A1616 -- Breathing System Tubing, Clear 22mm x 48 inches (1220mm) 201A1617 -- Breathing System Tubing, Clear 22mm x 60 inches (1524mm)



202A2895 - Breathing System Tubing,
Gray with cuffs,
22mm x 36 inches (915mm)
202A2896 - Breathing System Tubing,
Gray with cuffs,
22mm x 48 inches (1220mm)
202A2897 - Breathing System Tubing,
Gray with cuffs,
22mm x 60 inches (1524mm)



110A1118 -Power Cord IEC 320 USA

Compatible with all Model 2002PRO series and Anesthesia WorkStation Ventilators.

Model 2002^{PRO} and 2002IE^{PRO} Series Accessories Gas Supply Hoses & Fittings

000A0490 – White DISS (ISO) O₂ Supply Hose Fem x Fem Hand Tight 4' (1220mm) 000A0489 – Green DISS O₂ Supply Hose Fem x Fem Hand Tight 4' (1220mm)

These hoses are used to connect the ventilator to the O_2 power outlet of your anesthesia machine or Demand Wye. Custom lengths are available.



000A6557 – Pro Series Ventilator Accessory Kit Kit Includes:

 $000A0489 - O_2$ DISS Supply Hose, 4ft. (1)

000A6544 - O₂ DISS Inline Pressure Gauge (1)

150A1691 - O₂ DISS Demand Wye (1)

150A2953 - O₂ DISS Male Coupler (1)

This kit is included with the sale of HEMC 2002^{PRO} Series ventilators.

All parts available separately.



$000A6544 - O_2$ DISS Inline Pressure Gauge

Take the guesswork out of knowing what your ventilator O_2 input pressure is with this inline gauge.



150A1692 – White DISS (ISO) O₂ Demand Wye 150A1691 – Green DISS O₂ Demand Wye



150A2956 – White DISS (ISO)
O₂ Demand Wye 90°
150A2951 – Green DISS
O₂ Demand Wye 90°

Model 2002 PRO and 2002 IE PRO Series Accessories Gas Supply Hoses & Fittings cont.

Extension Blocks;

O2, DISS Hand-Tight Female Inlet x DISS Demand Outlets

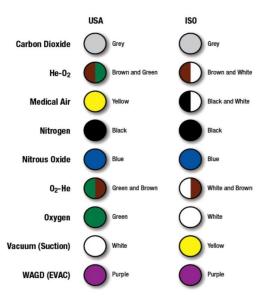


All listed Demand Wyes and Extension Blocks have one DISS female handtight nut and two DISS male demand valves. The demand valves remain closed until a mated fitting is attached. When the mating fitting is connected the valve opens permitting bidirectional flow.

We are able to create custom hoses and demand wyes to specifically fit your facilities' needs. If you need help choosing what your medical gas supply needs are there is a Medical Gas Fittings Catalog available upon request.

Please call with any questions you have or send an e-mail to: info@hallowell.com

Color-coding is used as a gas identifier worldwide for medical gas fittings and connectors. This chart shows the USA standards on the left and the International standards on the right.



MicroVent II

000A6554 - MicroVent II

Newly Updated





Providing ventilatory support for the smallest animals capable of intubation, our newly redesigned MicroVent II, based upon our MicroVent I design, is even more reliable and runs more efficiently and quietly than it's predecessor!

Perfect for mice and laboratory environments!

The **MicroVent II** is a dual mode ventilator. It will operate to deliver standard intermittent positive pressure ventilation (IPPV) or it will operate to deliver high frequency oscillatory ventilation (HFOV). The entire breathing system has a volume of less than 1cc. There are just four parameters to control, **Oxygen flow**, **Frequency** (breaths per minute), **Amplitude** (tidal volume) and Mean Airway Pressure (**Mean P**_{aw}).

The breathing system is also connected to a glass cylinder containing a floating puck, which is set in motion as per the settings for frequency and amplitude. In IPPV mode the frequency selectable ranges from 75 to 240 breaths per minute (BPM). A switch to HFOV mode changes the frequency range to 750 to 2400 "breaths" or more accurately cycles per minute. The "tidal volume" during HFOV is generally an order of magnitude less than it would be during IPPV and is now used to set up an oscillation of the molecules of gas from the breathing system down to the alveoli. This oscillation helps promote the diffusion of the different gases in the system. The animal now only vibrates slightly, gas exchange is accomplished by the diffusion of molecules as motivated by the difference in partial pressure gradients of the different gasses. No longer do you have the gross movement of the respiratory cycle so annoying to the microsurgeon.

Also incorporated into the **MicroVent II** is a system that allows you to connect to either vacuum directly or an active or a passive scavenging system with the flip of a switch.

Anesthesia Workstation (AWS)

000A2770 - Anesthesia Workstation (AWS) w/100ml Attachment 000A5653 - Anesthesia Workstation (AWS) w/200ml Attachment



The solution for supplying both anesthetic gas delivery and ventilatory support for pocket pets, avian, exotic and laboratory animal applications in one easy to use package.

A compact (9" x 9" x 15"h), portable (15lb.), convenient, circle system for use on animals under 7kg (15 lbs) or now up to 14kg (30lbs) with the 200mL attachment.

The AWS has proven itself to be well suited for both short and long-term anesthetic procedures with animals ranging in weight from about 150 grams to 6 or 7 kilograms. In procedures with these small animals, the AWS has been used for mask inductions and the subsequent maintenance of spontaneously breathing masked or intubated patients as well as providing ventilatory support for the intubated patient for minutes or days at a time. Throughout these procedures the AWS, with any precision vaporizer, has been shown to facilitate the administration of gas anesthetics, holding the subject in a very smooth controlled anesthetic plane. This device, with a circle system designed uniquely for small animals, helps cut down on hypothermia problems with its heated ventilator, CO2 absorber chamber, and the humidified breathing gas delivered to the patient. The AWS is currently being used on many diverse species such as rabbits, turtles, tamarins, woodchucks, crows, Cooper's hawks, various ducks, Canadian geese, snakes, rats, ferrets, owls and even cats and dogs.

The Hallowell EMC Anesthesia WorkStation is easy to use as BOTH a basic respirator (irrespective of anesthetic regimen, gas, or injectable) and delivery source for inhalant anesthetics. It incorporates a time-cycled volume ventilator with an adjustable pressure safety limit. The only additional component necessary for immediate utilization is a vaporizer for the agent of your choice.

AWS Manual, Replacement Parts & Accessories Available www.hallowell.com

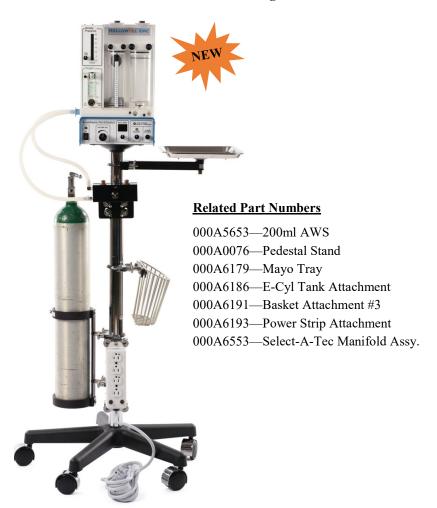
Anesthesia Workstation (AWS) cont.

<u>000A6559</u> -Anesthesia Workstation (AWS) Mobile Module (200ml Attachment)

Includes 200ml Anesthesia WorkStation, Pedestal Stand, Mayo Tray, E-Cylinder Attachment, BP Cuff Basket Attachment, Power Strip Attachment and Select-A-Tec Single Position Manifold Assembly.

Can be ordered with 000A2770 Anesthesia Workstation (AWS) w/100ml Attachment.

This mobile module is a value—saving hundreds of dollars.



We take pride in giving our customers the best service, knowledge, and solutions to make your products serve you at their full potential.

Visit our website <u>www.hallowell.com</u> and see how we can help you today.

Send inquiries and requests to info@hallowell.com or give us a call at 413-445-4263