

COMPACT ANESTHESIA SYSTEM

Operations Manual




PATTERSON[®]
VETERINARY

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USER RESPONSIBILITY

This device will perform in accordance with this manual as long as the user assembles, operates, maintains and repairs this unit as instructed. Do not use this device if any parts are missing or if any parts appear to be damaged in any manner. If parts are needed, it is the user's responsibility to contact Patterson Veterinary to obtain the correct parts. This device should not be used with any other manufacturer's parts without the written consent of Patterson Veterinary. If this device requires service, all repairs must be performed by an authorized service center or an authorized service technician trained by Patterson Veterinary. When contacting Patterson Veterinary for parts or service, the user must provide the model number and serial number located on the back of the frame. The user or any other individual shall not alter this device or any part associated with this unit without the written consent of Patterson Veterinary. Furthermore, it is the user's responsibility to read and understand this manual in its entirety prior to operating this device.



WARNINGS AND CAUTIONS DEFINED

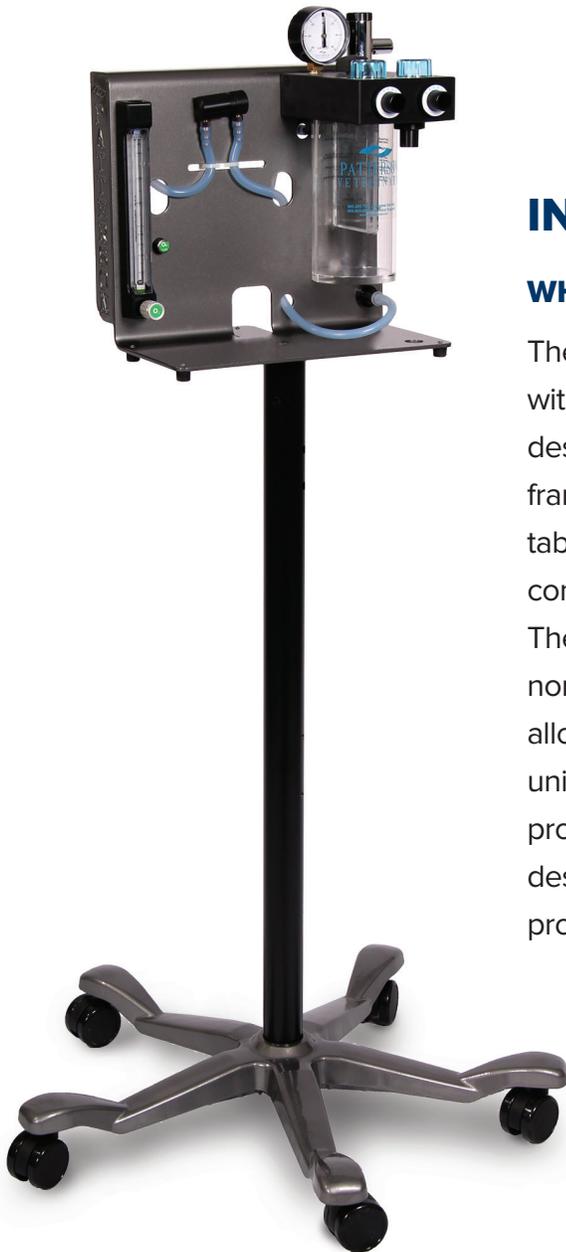
Throughout this operations manual there will be numerous WARNINGS and CAUTIONS that the user needs to read, understand, and adhere to.

WARNING! – Statement to alert the user that something could potentially harm the patient or operator.

CAUTION! Statement to alert the user that something could potentially interfere with or damage the anesthesia system.

WARNING!

Federal law (U.S.) restricts this device to sale by or on the order of a licensed veterinarian.



INTRODUCTION

WHAT IS THE COMPACT ANESTHESIA SYSTEM?

The Compact is a basic veterinary anesthesia system with all the necessary features in a smaller footprint designed to support one vaporizer. The condensed frame can easily be mounted flush to the wall, used as a tabletop machine, and the mobile version has a reverse contoured base that reduces the risk of any tip hazard. The Compact is equipped with both rebreathing/nonrebreathing functions and a fresh gas outlet that allows the user to change circuit type with ease. This unit includes a pop-off occlusion valve that simplifies the process of administering a breath. The Compact was designed to meet all of the demands of the veterinary professional who has space constraints.

UNPACKING AND INITIAL SETUP

78935903 MOBILE COMPACT ANESTHESIA MACHINE SETUP

ITEMS INCLUDED:

Base and casters

Machine pole

Anesthesia machine head

Pop-off occlusion valve (boxed)

Clean air kit

Universal F circuit

MJR circuit

Absorber canister with knob (boxed)

Pole knob (boxed)

STEP 1 Remove the base and casters from the packaging and place on the floor.



STEP 2 Remove the pole from the packaging. Place the pole into the base (tapered end into base). Tap firmly to seat pole into base.



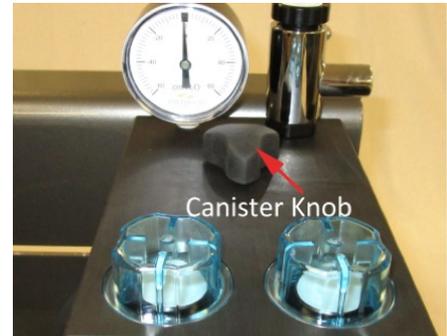
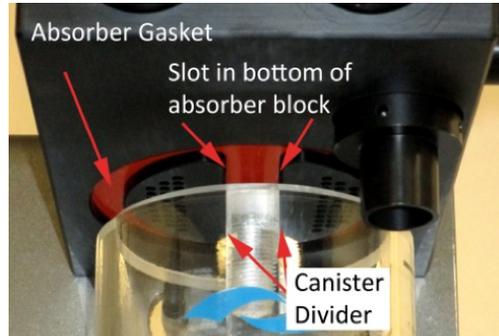
STEP 3 Remove the anesthesia machine head from the packaging and place the mounting "spud" into the top of the pole.

Align the hole in the "spud" with the hole in the top of the pole. Insert and tighten using the pole knob found in the absorber canister box.



78935903 MOBILE COMPACT ANESTHESIA MACHINE SETUP (CONT.)

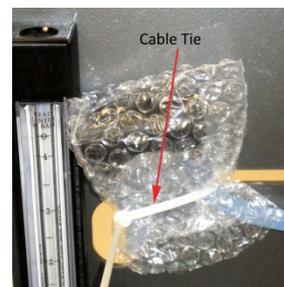
STEP 4 Fill absorber canister with CO₂ absorbent to the designated fill line and secure to anesthesia machine (with Patterson logo facing the front of the anesthesia machine) with the knob from the absorber canister box. Make sure the divider in the absorber canister lines up with and goes into the slot on the bottom of the absorber block so it seals against the gasket before fully tightening the knob.



STEP 5 Check inhalation/exhalation flutter disks. During shipping these disks MAY have come dislodged from their normal positions. They should be oriented flat on top of the valves beneath the dome caps as shown in the photo. If they are not as shown remove the dome caps, place the disks flat on the valves and replace the dome caps BEFORE using the anesthesia machine.



STEP 6 Cut the cable tie securing the vaporizer endcaps to the machine frame. Install vaporizer to the anesthesia machine using the mounting hardware provided with the vaporizer (may be easier with 2 people). If needed, use spacers between vaporizer and frame to allow clearance for endcaps. Place endcaps onto vaporizer inlet and outlet ports. **Please proceed to Installing a Vaporizer section on page 11 of this manual for further details.**



STEP 7 Remove the pop-off occlusion valve from the product packaging (inside the absorber canister box) and install onto the outlet port of the pop-off valve on the anesthesia machine. It is only necessary to push it on firmly with your hand; there is no need to secure it with any tools. Connect waste anesthesia gas tubing to the outlet of the pop-off occlusion valve.



WARNING!

Perform a pressure test on the anesthesia machine prior to use. Reference *Pressure Testing the Compact* later in this manual for instruction.

UNPACKING AND INITIAL SETUP (CONT.)

78935904 WALLMOUNT COMPACT ANESTHESIA MACHINE SETUP

WARNING!

Failure to mount this bracket to a solid structure in your facility can and most likely will lead to serious equipment damage as well as potentially serious injury to anyone in the area if the bracket and machine become dislodged from the wall. Do not assume that the wall is solid behind the drywall or other surface material present. Take great care to not penetrate any water pipes, electrical wiring, or other piping or structures present within the walls of your facility. Patterson Veterinary Supply assumes no responsibility for damage to equipment or injury to anyone sustained as a result of improper mounting of this product or damage to your facility occurring as a result of mounting this product.

ITEMS INCLUDED:

Anesthesia machine head

Absorber canister with knob (boxed)

Pop-off occlusion valve (boxed)

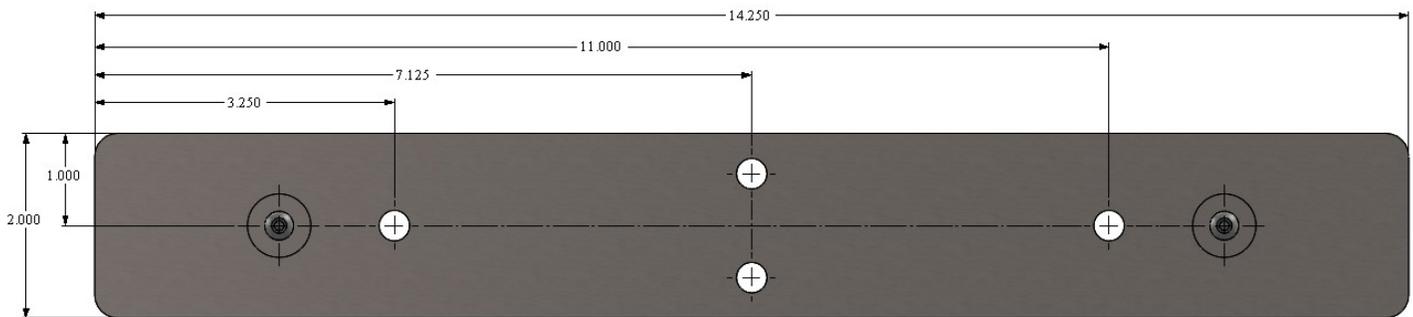
Wallmount bracket with

mounting hardware (boxed)

Universal F circuit

MJR circuit

Clean air kit



COMPACT WALLMOUNT BRACKET

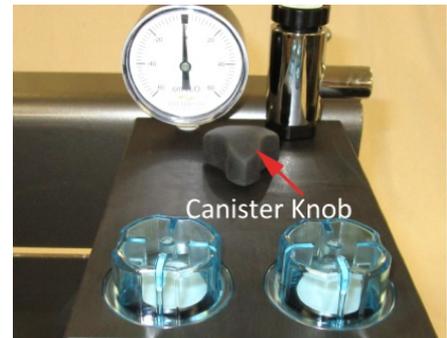
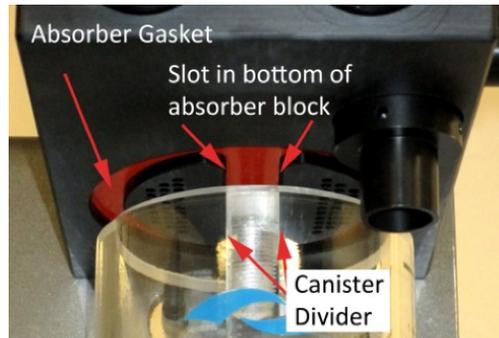
STEP 1 Remove the wallmount bracket from the packaging and mount the bracket to the wall using the enclosed mounting hardware or other suitable hardware (not provided) that is appropriate for the construction in your facility. It is recommended that this bracket be mounted to the wall using all four mounting holes provided. Use the mounting hole dimensions as shown above.

STEP 2 Remove the anesthesia machine head from the packaging and place on a flat work surface.



78935904 WALLMOUNT COMPACT ANESTHESIA MACHINE SETUP (CONT.)

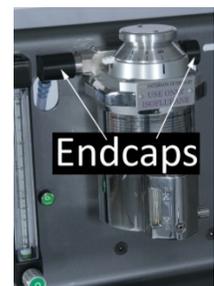
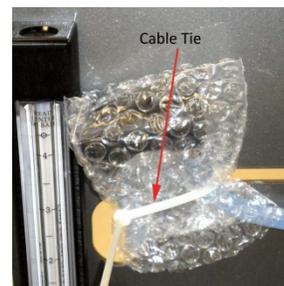
STEP 3 Fill absorber canister with CO₂ absorbent to the designated fill line and secure to anesthesia machine (with Patterson logo facing the front of the anesthesia machine) with the knob from the absorber canister box. Make sure the divider in the absorber canister lines up with and goes into the slot on the bottom of the absorber block so it seals against the gasket before fully tightening the knob.



STEP 4 Check inhalation/exhalation flutter disks. During shipping these disks MAY have come dislodged from their normal positions. They should be oriented flat on top of the valves beneath the dome caps as shown in the photo. If they are not as shown remove the dome caps, place the disks flat on the valves and replace the dome caps BEFORE using the anesthesia machine.



STEP 5 Cut the cable tie securing the vaporizer endcaps to the machine frame. Install vaporizer to the anesthesia machine using the mounting hardware provided with the vaporizer (may be easier with 2 people). If needed, use spacers between vaporizer and frame to allow clearance for endcaps. Place endcaps onto vaporizer inlet and outlet ports. **Please proceed to Installing a Vaporizer section on page 11 of this manual for further details.**



STEP 6 Remove the pop-off occlusion valve from the product packaging (inside the absorber canister box) and install onto the outlet port of the pop-off valve on the anesthesia machine. It is only necessary to push it on firmly with your hand; there is no need to secure it with any tools. Connect waste anesthesia gas tubing to the outlet of the pop-off occlusion valve.



UNPACKING AND INITIAL SETUP (CONT.)

78935904 WALLMOUNT COMPACT ANESTHESIA MACHINE SETUP (CONT.)

STEP 7 Carefully pick up the anesthesia machine (this step might be easier with 2 people) and place the holes/slots in the brackets on the back of the machine over the studs sticking out of the bracket that you have previously mounted to the wall. Make sure that the machine slides completely down over the studs on the wallmount bracket to ensure that the machine will not become dislodged from the wall.



WARNING!

Perform a pressure test on the anesthesia machine prior to use. Reference *Pressure Testing the Compact* later in this manual for instruction.

78935264 TABLETOP COMPACT ANESTHESIA MACHINE SETUP

ITEMS INCLUDED:

Anesthesia machine head
Universal F circuit

Absorber canister with knob (boxed)
MJR circuit

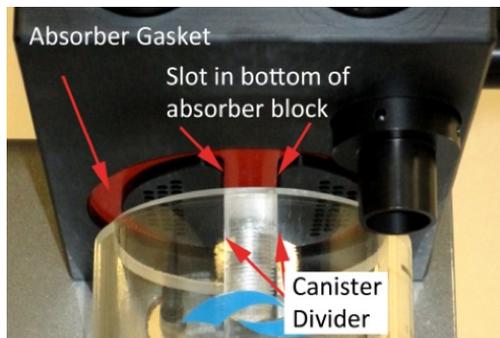
Pop-off occlusion valve (boxed)
Clean air kit

STEP 1 Remove the anesthesia machine head from the packaging and place on a flat work surface.



78935264 TABLETOP COMPACT ANESTHESIA MACHINE SETUP (CONT.)

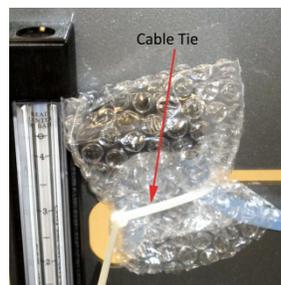
STEP 2 Fill absorber canister with CO₂ absorbent to the designated fill line and secure to anesthesia machine (with Patterson logo facing the front of the anesthesia machine) with the knob from the absorber canister box. Make sure the divider in the absorber canister lines up with and goes into the slot on the bottom of the absorber block so it seals against the gasket before fully tightening the knob.



STEP 3 Check inhalation/exhalation flutter disks. During shipping these disks MAY have come dislodged from their normal positions. They should be oriented flat on top of the valves beneath the dome caps as shown in the photo. If they are not as shown remove the dome caps, place the disks flat on the valves and replace the dome caps BEFORE using the anesthesia machine.



STEP 4 Cut the cable tie securing the vaporizer endcaps to the machine frame. Install vaporizer to the anesthesia machine using the mounting hardware provided with the vaporizer (may be easier with 2 people). If needed, use spacers between vaporizer and frame to allow clearance for endcaps. Place endcaps onto vaporizer inlet and outlet ports. **Please proceed to Installing a Vaporizer section on page 11 of this manual for further details.**



STEP 5 Remove the pop-off occlusion valve from the product packaging (inside the absorber canister box) and install onto the outlet port of the pop-off valve on the anesthesia machine. It is only necessary to push it on firmly with your hand; there is no need to secure it with any tools. Connect waste anesthesia gas tubing to the outlet of the pop-off occlusion valve.



WARNING!

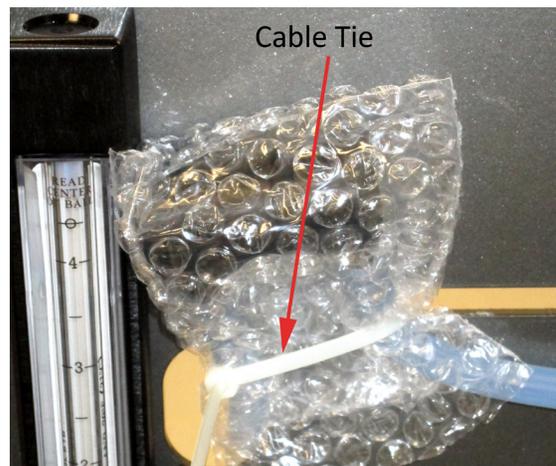
Perform a pressure test on the anesthesia machine prior to use. Reference *Pressure Testing the Compact* later in this manual for instruction.

INSTALLING A VAPORIZER

Follow the instructions below to install a Patterson EX III model or other style vaporizer.

Note: EX III Isoflurane Funnel Fill model shown (not included in Compact Anesthesia Machine purchase).

STEP 1 Cut cable tie and remove bubble bag to expose endcaps.



STEP 2 Separate endcaps.



STEP 3 Place flat washers on M6 X 22 mm screws and install through the back of frame and through spacer plate as shown.

Note: The spacer plate is only required to be used to mount a Patterson EX III vaporizer. All other style vaporizers can be mounted with their own specific hardware that is not included with the purchase of the Compact Anesthesia Machine. If other hardware is used, it is necessary to use a flat washer between the manifold of the vaporizer and frame of the anesthesia machine in place of the spacer plate.



STEP 4 Spacer plate should now have both screws installed and centered as shown.



INSTALLING A VAPORIZER (CONT.)

STEP 5 Lift vaporizer and thread screws into the vaporizer manifold. Hand tighten only at this point.

Note: Absorber block shown removed for clarity.

WARNING!

Vaporizer is heavy and it may be necessary to have assistance with the installation process.



STEP 6 Install female endcap onto the inlet side of vaporizer manifold. Install male endcap onto the outlet side of the vaporizer manifold.



STEP 7 Vaporizer should be positioned as shown with the tubing centered in the slots. Adjust if necessary.



INSTALLING A VAPORIZER (CONT.)

STEP 8 Tighten screws with an appropriate wrench (not included).



STEP 9 Tighten drain stem as shown.



STEP 10 Remove funnel fill cap.

Note: If a different style vaporizer is installed, please follow the instructions in that particular vaporizer operation manual.



INSTALLING A VAPORIZER (CONT.)

STEP 11 Fill vaporizer with the appropriately labeled anesthetic agent. EX III capacity is 250 ml. Allow vaporizer to sit for 1 hour upon initial fill prior to use so that the wick can absorb the agent. Reference vaporizer operations manual. It may be necessary to add more anesthetic agent after the initial hour due to wick absorption.

WARNING!

Vaporizer will not perform properly unless wick is allowed to absorb anesthetic agent for at least 1 hour.



STEP 12 Replace funnel fill cap on vaporizer after the fill operation has been completed. Tighten securely by hand.

Note: If a different style vaporizer is installed, please follow the instructions in that particular vaporizer operation manual.



DESCRIPTION OF FEATURES

Features Available on the Compact

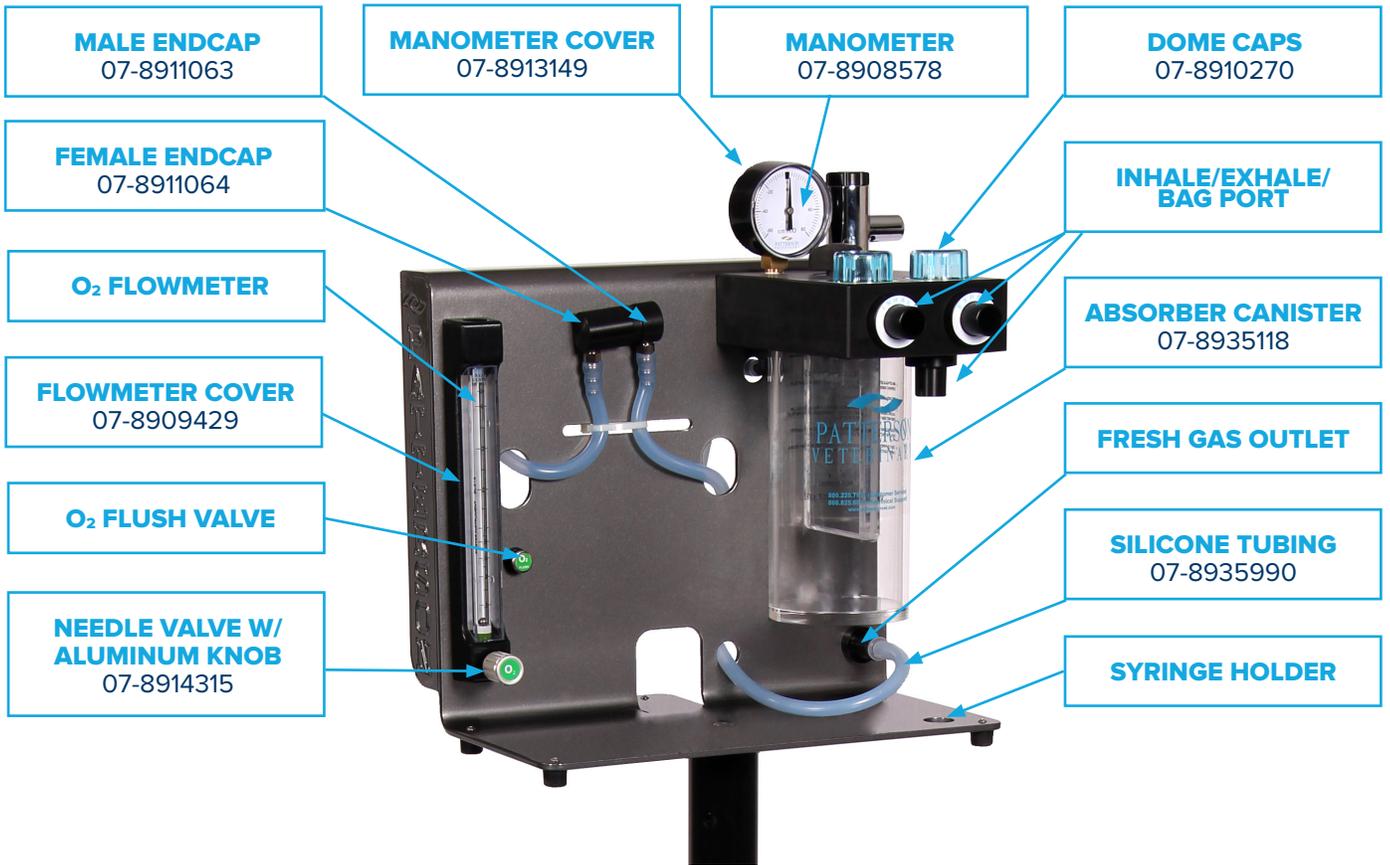


FIGURE 1



FIGURE 2

DESCRIPTION OF FEATURES (CONT.)

Features Defined (See Figures 1 and 2)

Absorber Canister – Located underneath the absorber system. The canister is filled with absorbent to remove the CO₂ from the breathing system. Canister capacity is 930 ml.

Base and Casters – 27" base with a reverse contour for more stability and a chemical-resistant clear coat. Casters are 65 mm (Mobile version only).

Dome Caps – Located on the top of the absorber block. The dome caps are manufactured from polycarbonate, which is nearly indestructible. The internal rib feature allows the flutter disk to move up and down freely without compromising the seal on the valve.

Endcaps – 23 mm tapered female connector attaches to the INLET side of the vaporizer. 23 mm tapered male connector attaches to the OUTLET side of the vaporizer.

Flutter Disks – Located beneath each of the dome caps. The flutter disks open and close during the exchange of breaths from the patient. As one opens, the other disk closes, keeping the air moving in one direction.

Fresh Gas Outlet – Located on the right side of the absorber towards the bottom of the frame. The fresh gas outlet is a convenient way for the user to connect a nonrebreathing circuit.

Inhale/Exhale/Bag Port – 22 mm tapered male ends are designed to fit all standard breathing circuits and various sizes of breathing bags.

O₂ Flowmeter – Located on the left side of the frame of the Compact. The flowmeter controls the amount of oxygen delivered to the patient. Standard flowmeter ranges from 250 ml to 4 L/min (accuracy +/- 5% of full scale).

O₂ Flush Valve – Located on the right side of flowmeter. The flush valve is used to administer oxygen only into the breathing system (nominal output – 30 L/min). The flush valve bypasses the vaporizer so no additional anesthetic is added to the system.

Pop-Off Occlusion Valve – Located on the pop-off valve. By pressing the button, the air is blocked from the pop-off valve, allowing the user to administer a manual breath to the patient. This eliminates the need to close the pop-off valve when administering a manual breath.

Pop-Off Valve – Located on the absorber block next to the manometer gauge. In the open position, the pop-off valve will allow for a passive volume up to 2 cm H₂O pressure and direct the waste anesthetic gas to a scavenging system through the 19 mm outlet port. In the closed position, the user is able to ventilate the patient. The pop-off valve can also be closed to perform a pressure test on the machine.

Syringe Holder – Convenient holder for cuff inflation.

PREOPERATIVE SETUP

UNIVERSAL F CIRCUIT

(Reorder part number 07-8911827)

The Universal F circuit is a rebreathing circuit that can be used on patients above 20 lb. Install the circuit as shown in Figure 3.

WARNING!

Blue silicone tubing and adapter must be connected to the Fresh Gas Outlet for the rebreathing setup to function properly.

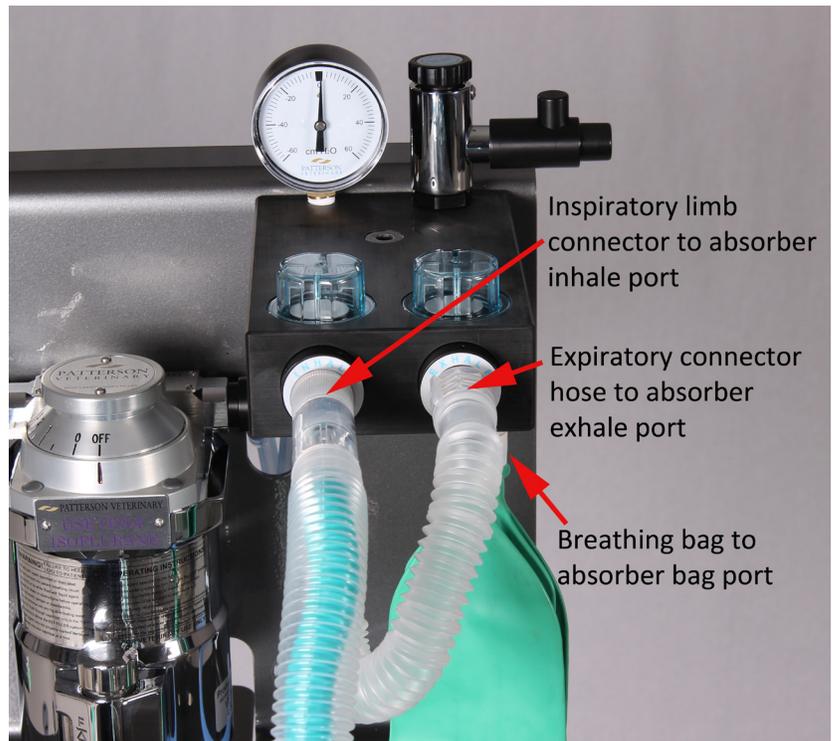


FIGURE 3

MODIFIED JACKSON REES CIRCUIT

(Reorder part number 07-8911828)

The Modified Jackson Rees is a nonrebreathing circuit that is recommended for patients 20 lb or less. Install the circuit as shown in Figure 4.

The blue corrugated waste gas tubing with white adapter on the MJR circuit will need to attach to your waste gas scavenger.

WARNING!

Blue silicone tubing with adapter must be removed from the Fresh Gas Outlet and the Modified Jackson Rees nonrebreathing circuit must take its place in the Fresh Gas Outlet in order for the nonrebreathing function to work.

15 mm clear fresh gas adapter on the MJR circuit will attach to the anesthesia machine here at the Fresh Gas Outlet.



FIGURE 4

PRESSURE TESTING THE COMPACT

It is very important to pressure test the Compact upon initial setup and on a daily basis. Follow the instructions below.

OXYGEN CONNECTION

The Compact comes standard with a Diameter Indexed Safety System (DISS) male connector. It is imperative that the mating DISS female connector be used to prevent any oxygen leaks. The oxygen needs to be regulated between 50 and 60 psi for adequate operation.

TEST PROCEDURE

Also covered in the Quick Start Guide with less detail.

1. Connect the Compact to an appropriate oxygen source regulated between 50 and 60 psi.
2. Make sure that flowmeter is OFF and the ball does not indicate any flow.
3. Connect the F circuit and breathing bag to the Compact as described in Figure 3 on page 17.
4. Close the pop-off valve.
5. Occlude the end of the F circuit at the elbow connection with your thumb.
6. Pressurize the absorber system using the flush valve until the manometer reads 30 to 40 cm H₂O.
7. After the pressure stabilizes, observe the needle on the manometer. The needle should not drop more than 5 increments in 20 seconds. If the pressure drops rapidly or the bag deflates, a leak is present and needs to be corrected.

TROUBLESHOOTING

If a leak is detected, the following instructions will assist in locating the leak and making the necessary corrections.

1. Mix up a soapy water solution in a spray bottle.
2. Remove the flex tube from the F circuit and connect it to the machine as shown at right. **(Note: this will free up your hands to help locate the leak.)**
3. Pressurize the absorber system until the manometer reads 30 to 40 cm H₂O.
4. Dial in flow on the flowmeter to compensate for leak to maintain pressure of 30 cm H₂O on manometer to assist in locating the leak.



CAUTION!

Once leak is located and corrected, the pressure will now begin to rise and could cause damage to the manometer or other parts of the machine if flowmeter is not turned OFF.

PRESSURE TESTING THE COMPACT (CONT.)

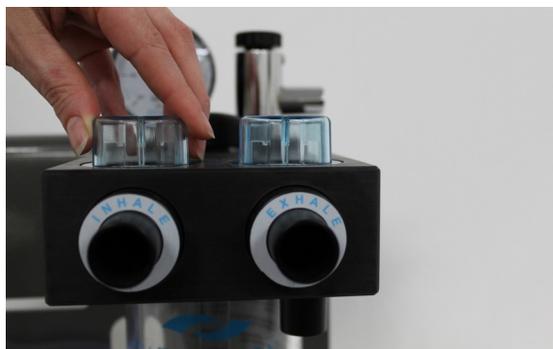
TROUBLESHOOTING (CONT.)

- Using the soapy water solution, spray around the following areas to locate the leak.
 - Absorber canister
 - Dome caps
 - Inhalation/exhalation/bag port
 - Pop-off base
 - Pop-off occlusion valve
 - Manometer base threads
 - Male/female endcaps
- Once leak is located, it is usually a matter of just tightening up the part that is causing the problem. If the problem cannot be corrected, please contact Technical Support at 866.825.6076.

MAINTENANCE AND CLEANING

It is critical that certain parts of the Compact be maintained and cleaned on a weekly basis due to the heat and moisture exchange that occurs within the absorber system. The instructions below refer to the critical components that require attention. All other portions of the machine can be cleaned with a mild cleaning agent.

STEP 1 Remove dome caps as shown.
(Dome Cap Replacement: 07-8910270)



STEP 2 Clean dome cap O-rings and all internal/external features with a mild soapy water solution, rinse well with water and dry before reinstalling. (O-ring Replacement: 07-8910887)



MAINTENANCE AND CLEANING (CONT.)

STEP 3 Remove absorber canister and wipe gasket clean with isopropyl alcohol. Examine holes for any blockage from CO₂ absorbent. (Absorber Gasket Replacement: 07-8935124)



STEP 4 Remove all CO₂ absorbent and remove as much dust as possible. Clean internal/external and divider sections of absorber canister with a mild soapy water solution. Pay specific attention to the top of canister where Sodasorb can build up. (Absorber Canister Replacement: 07-8935118)



WARNING!

Do not use compressed gas such as electronics cleaner compressed air for cleaning as Sodasorb dust can cause irritation and injury to respiratory system, eyes, or if ingested.

SPECIFICATIONS

OVERALL DIMENSIONS

78935903 27" W x 27" D x 55" H

78935264 14¼" W x 9" D x 15¾" H

78935904 14¼" W x 9" D x 15¾" H

FRAME:

14¼" W x 9" D x 12⅝" H

ACCESSORIES

PART NUMBER	DESCRIPTION
07-8927733	Dual E-Cylinder Manifold with Regulator and Alarm
07-8912526	Dual E-Cylinder Manifold with Regulator
07-8935905	Wallmount Bracket Compact
07-8911827	Universal F Circuit 40" with 2 Liter Bag
07-8911828	Modified Jackson Rees with ½ Liter Bag

WARRANTY

LIMITED WARRANTY

Patterson Veterinary Supply, Inc. (“Seller”) warrants to the original purchaser that the new Product (excluding accessories) shall be free from defects in material and workmanship under normal use, if used in accordance with information contained in the operations manual, for the lifetime of the Product to the original purchaser. (**NOTE:** Anesthesia vaporizers are NOT included within this warranty.) Ordinary wear and tear (including, but not limited to, the need to replace worn or aged parts such as gaskets, O-rings, flutter valve discs, circuits, hoses, casters, and bags) is not considered a defect in material and workmanship and is not covered under this warranty.

Buyer’s **SOLE AND EXCLUSIVE REMEDY** for breach of this warranty shall be replacement or repair, free of charge, of such part or parts as are determined to be defective, or repayment of the purchase price paid by Buyer, whichever such remedy Seller shall select. To make a claim under this warranty, Buyer must, within ninety (90) days of discovery of the defect in material or workmanship, give written notice of the defect to Seller and, if requested by Seller, promptly deliver the equipment to Seller, FOB Seller’s designated facility.

DISCLAIMER OF WARRANTIES

The foregoing express warranty, as conditioned and limited, is in lieu of and excludes all other warranties whether express or implied, by operation of law or otherwise. **SELLER MAKES NO OTHER REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT OR OTHER PARTS RELATING THERETO, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.**

Seller disclaims responsibility of the suitability of the Product for any particular medical treatment or for any medical complications resulting from the use of the Product. The disclaimer is dictated by the many elements which are beyond Seller’s control, such as diagnosis of patient, conditions under which the Product may be used, handling of the Product after it leaves Seller’s possession, execution of recommended instructions for use and others. Buyer is solely responsible for providing the necessary knowledge, expertise, skill, and judgment of veterinarians or other professionals in connection with use of the Product.

PATTERSON VETERINARY TECHNICAL SUPPORT OR WARRANTY INFO: 866.825.6076

SERVICE (EQUIPMENT REPAIR OR MAINTENANCE): 855.778.8387



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