

# SOMNI AMD-3+

## ACCURATE MULTI-DELIVERY SYSTEM



SOMNI PRODUCT MANUAL



Pressurized 3 Station Flowmeter Controlled Diverter System  
Model AMD-17106, AMD-17217, AMD-17106K

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# INTENDED USE

The SOMNI AMD-3+ Accurate Multi-Delivery System is a pressurized flowmeter controlled diverter system designed for Veterinary Use Only. The AMD-3+ gives the user the ability to deliver accurate adjustable flow rates to three stations simultaneously. Each station has a flowmeter to control the volume delivery needed. For ease of use, each flowmeter also has a on/off toggle switch. Set the flow rate needed on the flowmeter and utilize the switch when the flow rate used is consistent. Use of a pressurized flow controlled Anaesthesia system ensures continuous, consistent and accurate flowrates to each station for the duration of the procedure. The SOMNI AMD-3+ system includes a SOMNI 3 6psi calibrated Isoflurane Vaporiser. Only use the AMD-3+ system with a 6psi specially calibrated Vaporiser, failure to do so can result in equipment damage and inconsistent flow rates/anaesthetic concentration to the animal.

## **Unpacking/ included items**

SOMNI AMD-3+

SOMNI 6psi Vaporiser with frame

2 - color coded 6' Fresh gas delivery lines with common outlet









1 - color coded 6' Fresh gas delivery line with 15mm adapter

Vaporiser Fill Instruction Protocol card (please keep near Vaporiser)



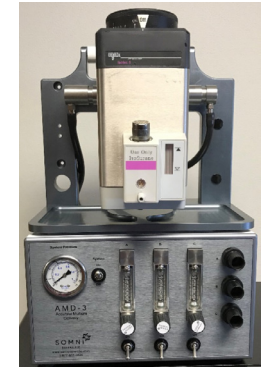
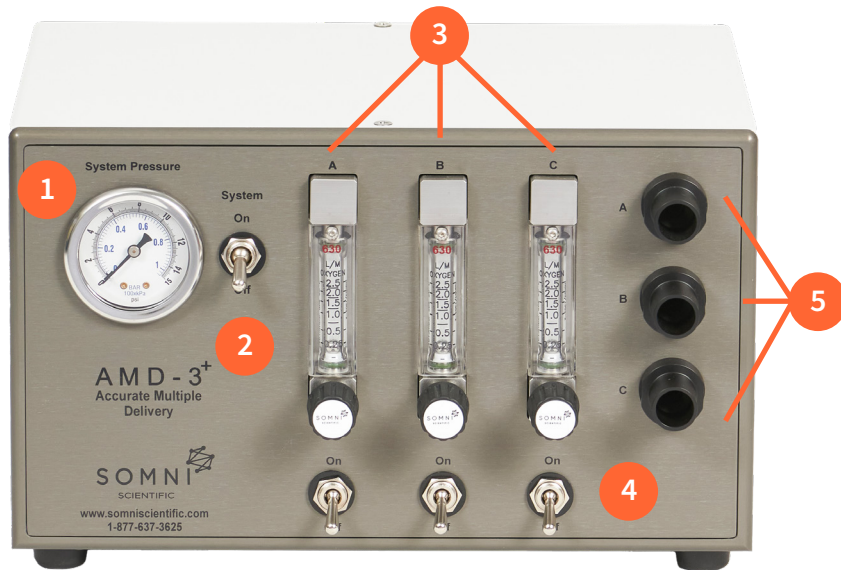
# INTRODUCTION

## WARNINGS, NOTES AND DEFINITIONS

-  Warning! System is pressurized to approximately 6 psi when in use! Failure to follow Depressurization procedure will result in high levels of anaesthetic exposure!
-  Warning! Operator must read entire manual prior to operation and be trained in the use of inhalant anaesthetic equipment. Failure to do so may harm the animal.
-  Warning! Only use accessories appropriate for use with nonrebreathing Anaesthesia systems. Failure to use appropriate accessories can result in animal injury, poor anaesthetic delivery and waste gas exposure.
-  Warning! Do not connect unregulated carrier gas to the Anaesthesia system. Oxygen or another carrier gas should be supplied at 50 psi.
-  Warning! Only use a 6psi calibrated Vaporiser with this system. Use of a Vaporiser that has not been calibrated at 6psi may harm the Vaporiser and result in inaccurate anaesthetic flow rates and/or concentrations to the animal.
-  Warning! Vaporiser is pressurized when in use. Do not attempt to open the fill cap and replenish agent without following depressurization procedure!
-  Warning! Always operate inhalant anaesthetic equipment with waste gas scavenging systems. Failure to control waste anaesthetic gas may cause harmful exposure to personnel.
-  Note! Only use non-rebreathing style circuits and accessories



# DESCRIPTION OF CONTROLS/FEATURES



- 1 Pressure gauge
- 2 Main Oxygen Supply switch
- 3 Anaesthetic Flow Control Knobs
- 4 Flowmeter switch "A" "B" "C"
- 5 Common Outlets "A" "B" "C"

- Connect the black tubing from the Vaporiser inlet (6) to the oxygen outlet (7) on the back of the AMD-3+.
- Connect the black tubing from the Vaporiser outlet (8) to the gas inlet (9) on the back of the AMD-3+.
- Connect the oxygen (carrier gas) supply hose to the DISS male fitting (10) on the back of the machine. Turn the carrier gas supply on at the source (cylinder regulator or concentrator). Do not turn the AMD 3+ main oxygen supply toggle switch on until ready to begin.

# PRODUCT OPERATION

- Place the SOMNI AMD-3+ on a flat, stable surface and ensure the main oxygen supply switch is in the “OFF” position.
- Connect the fresh gas delivery lines supplied to each of the common outlets labelled A, B, or C. If one of the lines is not needed, it is not necessary to disconnect it.
- Connect optional breathing accessory or induction chamber utilizing the color coded fresh gas delivery lines.
- Connect appropriate active or passive waste gas scavenging system to each accessory in use.
- Ensure Vaporiser has been filled with anaesthetic agent and allowed to wick for a minimum of 1 hour, see Vaporiser manual and filling protocol following this section for further instructions.
- Turn the main oxygen supply toggle switch on/up. The pressure gauge should read ~6psi.
- Toggle each flowmeter toggle switch up/on to allow flow to begin. Adjust each flowmeter to the level of flow needed for each gas delivery line and corresponding accessory. See suggested flow rates. Confirm oxygen flow through each of the gas delivery lines.
- If all flowmeters will not be utilized, it is not necessary to turn the flowmeter off, only toggle the toggle switch down/off to stop the flow.
- To begin, ensure the waste gas scavenging system is connected and turned on. Place animal(s) into induction chamber and provide oxygen or other carrier gas flow.
- Verify the chamber is closed and then turn on the Vaporiser to the desired anaesthetic percentage.



# PRODUCT OPERATION CONT.

- Follow established guidelines regarding flowrates and percent anaesthetic concentration. Suggested fresh gas flow to any accessory (except hooded style induction chamber) SHOULD NOT EXCEED 1 LPM. Recommended maximum fresh gas flow rate for induction chamber is 2 LPM.

Suggested Fresh Gas Flow Rates and Scavenging Vacuum with EPS-3:

Manifolds	Fresh Gas	Scavenge
Uniflow	1 LPM	5-7 LPM
Equaflo/Rat	1 LPM	5-7 LPM
3 Mouse Manifold	1-1.5 LPM	7-10 LPM
5 Mouse Manifold	1-1.5 LPM	7-10 LPM
10 Mouse Manifold	1.5-2 LPM	7-10 LPM








Scavenging may vary by setup\*

- At procedure completion, turn the anaesthetic Vaporiser off and allow the anaesthetic gas to be removed by the scavenging system.
- Turn the oxygen (carrier gas) supply off at the source (cylinder regulator or concentrator) and allow the pressure gauge on the AMD-3+ to fall to 0.
- Next turn off each of the station flowmeter toggle switches. Turn the main oxygen supply toggle switch off and lastly turn off the scavenging system.



**WARNING:**  
Anesthetic Vaporizer Is Under Pressure

Please Follow this protocol for refilling vaporizer

-  Wear safety goggles or safety glasses.
-  Turn O2 supply primary switch to "OFF"
-  With vaporizer in "ON" position (2% concentration), drain oxygen from line by turning "ON" fresh gas switch to induction chamber (be sure to have evac for the induction chamber "ON").
-  When oxygen stops flowing (flow meter will drop to zero and O2 pressure gauge will drop to zero), turn induction chamber fresh gas supply to the "OFF" position.
-  Fill vaporizer with liquid anesthetic.
-  Turn vaporizer dial to "OFF" position.
-  Turn O2 supply primary switch to the "ON" position

## ROUTINE MAINTENANCE

### Daily test: Oxygen Flow:

- Turn the oxygen supply source on.
- Turn the main oxygen supply toggle switch on.
- Turn each flowmeter knob fully open and observe the float ascends and descends freely and rests completely at the bottom when knob is turned off.
- Open and close each toggle switch, checking for gas flow through delivery lines when open and verify loss of flow when closed.

### Daily test : Internal leak check:

- Turn the oxygen supply source on.
- Turn the main oxygen supply toggle switch on (AMD-3+).
- Turn each flowmeter toggle switch on.
- Ensure scavenging system is turned on/connected.
- Turn Vaporiser on.
- Turn the oxygen supply source off.
- Turn flowmeter toggle switch off.
- Turn main oxygen supply toggle switch off (AMD-3+)
- Observe pressure gauge. If system pressure drops contact Somni Support.
- Inspect lines, connectors and accessories for wear prior to use.

### Cleaning

- Use a damp cloth to clean, do not spray cleaning agent directly onto the AMD-3+. Dilute Chlorhexidine or similar cleaning and disinfecting agent can be used. Do not use alcohol.

## TROUBLESHOOTING

### Flowmeter will not turn off – Needle valve may be worn

### Animals will not go to sleep/stay asleep – Inspect system for leak

- tighten any loose connections (Vaporiser endcaps, tubing connections)
- verify flowmeter toggle switch is on, flowmeter is turned on
- confirm oxygen (carrier gas) supply is adequate and on
- confirm liquid anaesthetic level in Vaporiser is adequate
- inspect breathing circuit/nosecone and/or induction chamber for leak or loose connection
- check active waste gas system function/attenuation

*Call 0800 0129101 for assistance*





# WARRANTY AND SERVICE INFORMATION

## Limited Warranty

SOMNI Scientific (SOMNI) warrants to the original purchaser that the products, not including accessories, shall be free from defects in materials and workmanship under normal use, if maintained in accordance with SOMNI's guidelines and used according to its labeling, for the period specified in the manual.

Warranty period is 3 years from the invoiced date of purchase.

THIS LIMITED WARRANTY, IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES WHETHER EXPRESSED OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

This warranty is void if the product has been altered, misused, damaged by neglect or accident, tampered with, not properly maintained, not installed in strict compliance with applicable codes and ordinances, or repaired by persons not authorized by SOMNI. This warranty does not cover normal wear and tear and maintenance items and specifically excludes accessory items and any other equipment used with the product.

## Limitation of Remedies

SOMNI Scientific's only obligation under this limited warranty is the repair or replacement of the product. THIS IS THE EXCLUSIVE REMEDY. SOMNI shall not be liable for and hereby disclaims any direct, incidental, consequential or special damages or delays, including but not limited to loss of use, downtime, lost business, revenues and profits.

## Warranty Procedure

To obtain warranty service, contact SOMNI Scientific 0800 0129101 or [info@somniscientific.com](mailto:info@somniscientific.com).

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## SUPPLIES AND ACCESSORIES

### For Active type System

- EPS-3 Exposure Prevention System, active PN: WG-15001
- Large Induction Chamber, Clear, Indicate: Active or Passive PN: IC-3012
- Medium Induction Chamber, Clear, Indicate: Active or Passive PN: IC-3014
- Equaflow Manifolds – multiple options available see [sommniscientific.co.uk](http://sommniscientific.co.uk)

## SPECIFICATIONS

Weight	14 lbs. / 6.5 kg
Dimensions	12 in W x 8 in. D x 8 in. H (30 cm W x 20 cm D x 20 cm H)
Flowmeters:	0-2.5LPM
Oxygen inlet:	DISS Male
Regulator:	0-30psi maximum operating range, set at ~6psi