

For Veterinary Use Only

# DARVALL Cozy™ Warm Air Heater



## Instruction Manual



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**AAS** ADVANCED ANESTHESIA SPECIALISTS

[www.aasmedical.com](http://www.aasmedical.com) [www.darvallvet.com](http://www.darvallvet.com)

**DARVALL**

**We Warm Animals Without Harm**

Made For Veterinary Use Only

## DARVALL Cozy™ Warm Air Heater

### Includes:

- Cozy™ Heater
- Instruction Manual
- Hose with Darvall Nozzle
- Heater Hose Cover
- Power Cord
  - Australia
  - Europe
  - Japan
  - UK
  - USA
- Cozy Accessories Kit  
Additional Item
  - Wheel Mount Kit
  - Heater Hose Clamp
  - Spare 0.2um HEPA Filter

### Specifications:

Input: 220-240 V AC  
50/60 Hz; 8 Amp fuse

or

Input: 110-120 V AC  
60 Hz; 12 Amp fuse

Heating Power 1000 W

1500W Peak; 750 W Avg.

Air Flow 50 CFM max.

Noise < 55 db

Size cm: 28H x 22L x 22W  
(11"H x 8.6"L x 8.6"W)

Weight 4.5kg / 10lb

### Advanced Anaesthesia Specialists

Head Office: Unit 13, 46-48 Buffalo Road, Gladesville NSW 2111, Sydney, Australia

[www.aasmedical.com](http://www.aasmedical.com) [www.darvallvet.com](http://www.darvallvet.com)

### Reginal Customer Support



**Australia** Tel +612 9808 1844  
**Hong Kong** Tel 0852 6682 8672  
**UAE: Eurovets** Tel 971 4434 2436  
**United Kingdom** Tel 0845 602 4330  
**USA Arizona** Tel 866 931 3292

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**Darvall Cozy™ Warm Air Heater**

**Serial Number:** \_\_\_\_\_

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## General Warnings related to Warming Animals

Hypothermia occurs in 85% of anesthetized small animals. The Darvall Cozy Warm Air Heating System is thermostatically controlled, intended to safely warm caged or kennelled animals before anesthesia, during recovery and critical care as well as warming animals during anesthesia, surgery, dentistry, minor procedures, endoscopy, imaging etc.

**Animals should be under observation during use of warming devices** and their body temperature monitored frequently (usually every 20 min) or continuously.

**Do not actively warm animals (mammals) above 37°C/98.6°F** (for reptiles use lower temperatures)

**To prevent the risk of burning skin** the Cozy Heater is designed to be connected to a purpose-made semi-permeable forced warm air blanket that distributes the warm air evenly around the animal.

**Never place the heater nozzle next to an anaesthetized animal without connecting it to a purpose made warming blanket.** Even at 46°C/115°F, burning can occur with skin contact, typically >2hrs.

Darvall has invested 10 years of research into developing and manufacturing an innovative range of blankets designed to deliver warm air safely, effectively and uniformly to caged and anaesthetized animals (International Patents granted and applied for). The full range of Darvall Warm Air Blankets for use in cages, anesthesia or surgery are shown on Page 6.

**The Darvall Twist-Connect Kennel Door Adapter** ducts warm air safely into kennels. Simply twist to lock/unlock from grill or wire doors and rapidly moved between kennels. Darvall's adapter permits warm air to be ducted into kennels with secure closure of the door preventing risk of animals falling out and enabling rapid access in an emergency. Use of the kennel door adapter will reduce risk of physical damage to heater hoses.

**The Darvall Cozy Warm Air Heater has a 0.2um HEPA air filter which should be replaced every 6 months or 500 hours of use.** Instructions for changing the filter are on Page 17.

**The Darvall Cozy Warm Air Heater is intended to be used on wheels to elevate the heater above the floor and minimize contamination of the HEPA air filter with dust and hair.**

**There is Minimal Infection Risk using warm air heating during surgery in an appropriate manner.**

For any sterile procedure use of a new Darvall Warm Air Blanket is advisable. In human surgery, use of forced warm air heating is associated with lower rates of infection if the heater is properly maintained, the filter changed regularly and new warm air blankets are used for each surgery compared to no warming.



## Warnings related to use of the Darvall Cozy™ Warm Air Heater

<p>Grounding reliability can ONLY be achieved when the Darvall Cozy Heater's power cord is connected to a properly grounded Mains power outlet.</p>
<p>If the over-temperature indicator light illuminates and the alarm sounds, discontinue using of Darvall Cozy Heater to prevent thermal injury to the patient. Unplug the Darvall Cozy Heater and contact a qualified service technician.</p>
<p><b>Do not use the Darvall Cozy Heater if it is not connected to blankets or Thermal Injury may result.</b> The Cozy Heater is designed to be connected to a purpose-made semi-permeable forced warm air blanket that distributes warm air evenly around the animal.</p>
<p>Caution using Darvall Cozy Warm Air Heating System in animals with transdermal medication. Drug delivery may be increased which could result in animal injury or death.</p>
<p><b>Do not allow the animal to lie on Darvall Cozy Heater Hose or allow the hose to directly contact the animal's skin during warming, or thermal injury may occur.</b></p>
<p>When replacing the Darvall Cozy Heater Hose, always disconnect the temperature sensor attached to the old hose. Be sure to attach the hose and temperature sensor from the new hose, prior to using the device.</p>
<p>Do not use Darvall Cozy Heater in MRI rooms as the heater contains ferrous metal and emits RF interference. Darvall can supply all-plastic heater extension hoses to duct warm air from outside the MRI room or the magnetic field to warm air blankets covering animals in MRI</p>
<p>The Darvall Cozy Heater meets medical electronic interference requirements (IEC60601-1-2)</p>
<p>Clamping the Darvall Cozy Heater to an IV pole stand can result in instability. To prevent this, use the Darvall Cozy Heater no higher than 60 cm (24") high on an IV pole stand.</p>
<p>Do not use Cozy Heater replacement components in that are not supplied by Darvall/AAS or their distributors or authorized service agents</p>
<p><b>Electrical shock hazard:</b> Do not disassemble the Darvall Cozy Heater unless you are a qualified service technician. There are electrically live parts in the Darvall Cozy Heater if it is connected to a power source, even when it not switched on OR is in Standby mode.</p>
<p><b>End-users may replace the Darvall Cozy HEPA Air Filter, the heater hose with temperature sensor, the heater hose cover and the electrical fuse located near the mains supply inlet power cord.</b></p>

# DARVALL Cozy™ Warm Air Blanket System

## We Warm Animals Safely

### Solving Hypothermia

- Effective
- Thermodynamic
- Rapid Response
- Pre-Warming
- Animal Safety

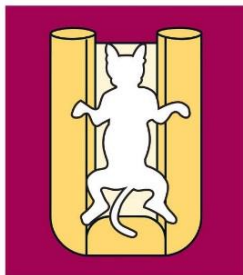


### Leave Hospital Sooner

- Physiological Stability
- Efficiently Increase Temp.
- Faster Wake Up
- Saves Tech-Time
- Fewer Complications

### Innovative Warm Air Blankets for Surgery, Dentistry, Exotics & Kennels

Use for Pre-warming, During Anaesthesia & In Recovery



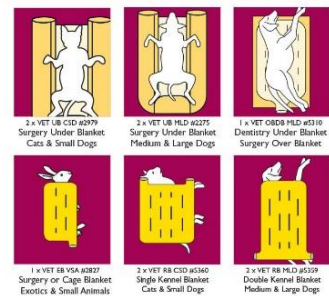
VET UB CSD #2979  
Surgery Under Blanket  
Cats & Small Dogs



VET UB MLD #2275  
Surgery Under Blanket  
Medium & Large Dogs



VET OBDB MLD #5310  
Dentistry Under Blanket  
Surgery Over Blanket



2 x VET UB CSD #2979  
Surgery Under Blanket  
Cats & Small Dogs

2 x VET UB MLD #2275  
Surgery Under Blanket  
Medium & Large Dogs

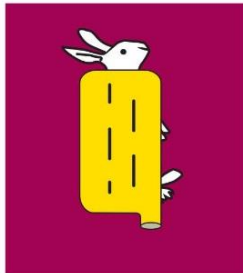
1 x VET OBDB MLD #5310  
Dentistry Under Blanket  
Surgery Over Blanket

1 x VET EB VSA #2827  
Surgery or Cage Blanket  
Exotics & Small Animals

2 x VET RB CSD #5360  
Single Kennel Blanket  
Cats & Small Dogs

2 x VET RB MLD #5359  
Double Kennel Blanket  
Medium & Large Dogs

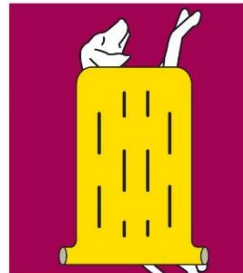
Sample Pack #8460  
10 X Cozy Blankets



VET EB VSA #2827  
Surgery or Cage Blanket  
Exotics & Small Animals



VET RB CSD #5360  
Single Kennel Blanket  
Cats & Small Dogs



VET RB MLD #5359  
Double Kennel Blanket  
Medium & Large Dogs

**Cozy™**  
Starter Kit #9048  
Pre-Warming in Kennels

- Cozy™ Heater #9612
- Cage Door Adapter #5366
- Sample Pack #8460



Darvall Cozy™ #9612  
Warm Air Heater



Cage Door Adapter #5366  
Kit with Extension Hose #7882



Heater Hose Clamp #9742



2-Kennel Heater Hose Kit #1959

**Darvall Veterinary Customer Support**  
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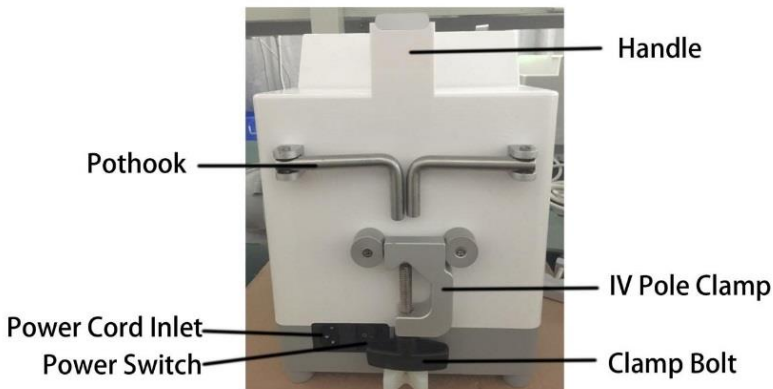
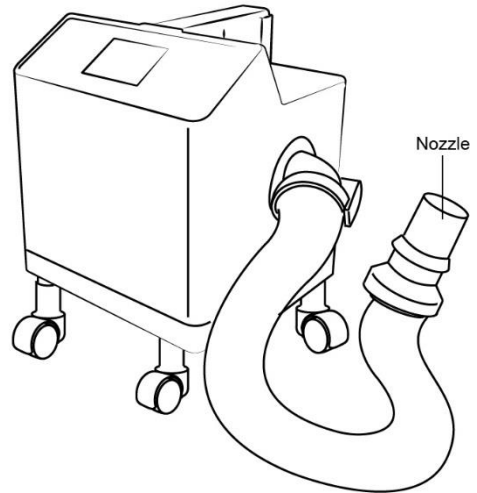
Patents granted and pending

## Darvall Cozy™ Warm Air Heater Components, front & rear views

**Figure 1. Darvall Cozy Heater - Front View**

Shows control panel, handle on top of the top case, Heater Hose Elbow swivel outlet and Heater Hose with Darvall Nozzle on hose end. Nozzle inserts into blankets which tie behind the flange. Nozzle also push-fits into Darvall's patented Kennel Door Adapter used to duct warm air safely into small and larger cage blankets for pre-warming before anesthesia and post-anesthesia recovery warming.

The Cozy Heater is mounted on 4 swivel wheels.



**Figure 2. Darvall Cozy Heater Rear view**

The power switch is next to the Power Cord inlet and will disconnect all power to the Darvall Cozy if in the OFF position. The fuse is located to the right of the power cord inlet. Always disconnect the power cord before opening the fuse compartment.

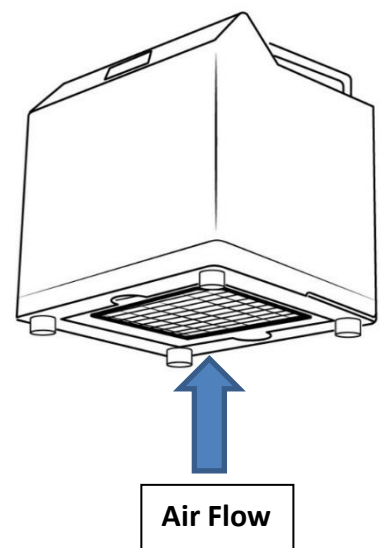
IV Pole Mount clamp and kennel door hooks (hinged) can be seen.

**Figure 3. Darvall Cozy Heater Under-side View**


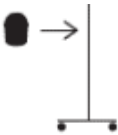
Shows Air Intake with HEPA Air Filter cover. If the air intake is obstructed, the Cozy can over heat.

It is best to use Cozy Heater on wheels, mounted on an IV Pole Stand or hanging on a cage.

**The HEPA Air Filter should be changed every 500 hours or 6 months of use. See page 17**



## Preparing to use Darvall Cozy™ Warm Air Heater

	Please check and verify that all components are present. If any parts are missing or damaged, do not use the Darvall Cozy Heater.
	Darvall Cozy Heater should be connected to a properly grounded mains power outlet.
	<b>The Darvall Cozy Heater is intended to be elevated above the floor to minimize contamination of the filter with dust and hair.</b>
	Mount Darvall Cozy Heater on its wheel assembly, use the rear mounted damp and position on an IV pole stand or use rear hooks to hang on a cage or kennel door. If the Darvall Cozy Heater is NOT ON WHEELS, IV Pole or hanging then place on its feet on a flat, hard, dry surface such as a table or shelf. <b>Do not place the Darvall Cozy Heater on a soft or uneven surface since the air intake may become obstructed, causing the Darvall Cozy to overheat.</b>
<b>Unstable mounted too high on IV Pole stands</b>	<b>To prevent instability, use the Darvall Cozy Heater no higher than 60cm (24") high on the IV pole stand.</b>
Heater Hose Temperature Sensor	The Darvall Cozy Heater must be connected to its heater hose with built-in temperature sensor for it to work.

### To avoid damage to Darvall Cozy™ Warm Air Heater

- Do not immerse the Darvall Cozy Heater or Darvall Cozy parts or accessories in any liquid or subject them to any sterilization process.
- Do not use solvents such as acetone or paint thinner to clean the Darvall Cozy Heater plastic housing;
- Do not use abrasive cleaners or scouring pads to clean the Darvall Cozy Heater plastic housing;
- Clean the Darvall Cozy Heater exterior with a soft cloth using plain water or a mild, all-purpose, nonabrasive cleaner or disinfectant (eg dilute chlorhexidine soap) or plastic cleaner or plastic polish.

### Maintenance

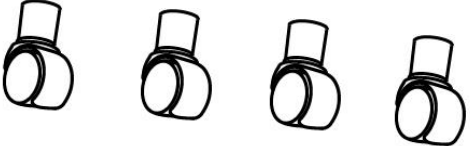
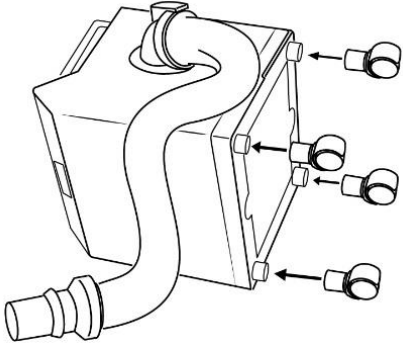
- The Darvall Cozy Heater should be used in the manner described in the Instruction Manual.
- Users should not repair any internal electronic components of the Darvall Cozy Heater.  
If a fault condition occurs, do not open the Darvall Cozy Heater as this will void the warranty and may result in injury or death. There are electrically live parts in the Darvall Cozy Heater if it is connected to a power source, even when it not switched on.
- Repair, calibration, and service of Darvall Cozy Warm Air Heaters should be done by a qualified service technician in accordance with the instructions in the Service Manual.
- Warranty repairs must be performed by AAS/Darvall or be approved in writing if undertaken by a third party qualified service technician.
- **Contact Advanced Anesthesia Specialists or visit our website if you require advice or instructions.**



### Installation of Wheels on the Darvall Cozy Heater

Tools: None

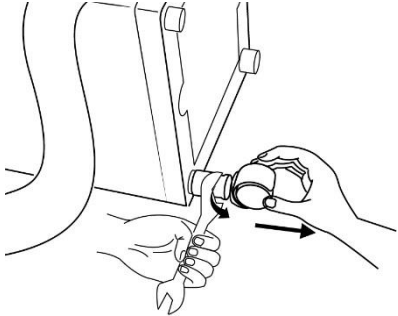
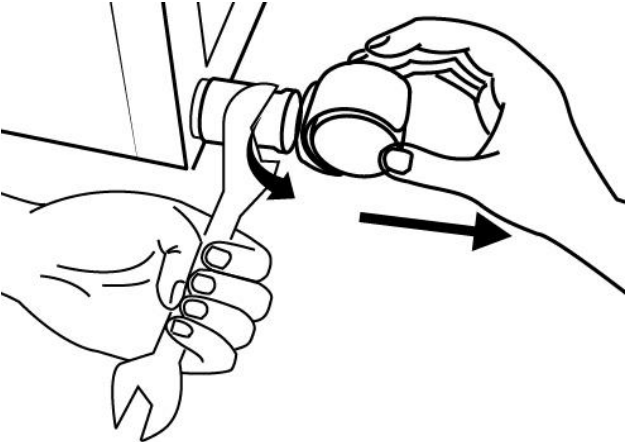
Time: 5 min.

	<p>Darvall's Cozy Warm Air Heater includes a "wheel kit" = 4 x 40mm swivel wheels, with their vertical shaft installed into a wheel-mount adapter. NO TOOLS are required for assembly. Time: 5 min.</p> <p><b>Wheel-Mount assembly Installation:</b></p>
	<ol style="list-style-type: none"><li>1. Disconnect the Cozy Heater from the power source before commencing wheel installation.</li><li>2. Place the Cozy Heater on its side on a padded surface (eg. towel) on a stable bench or table. The Elbow Hose Outlet should be on the UP SIDE.</li><li>3. Wheels "push fit" onto the four feet (lugs) on the under-side of the bottom case, one located on each corner. These are slightly tapered cylinders so each wheel-mount adapter "locks on" by friction. Simply push the wheel-mount assembly on by hand.</li><li>4. Lift the Cozy Heater holding the top handle, turn over and lower to the floor onto the wheels.</li></ol>

### Removal of Wheels from the Darvall Cozy Heater

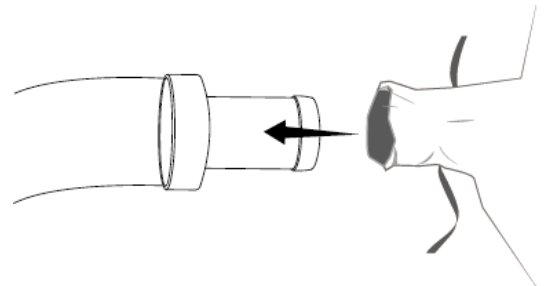
Tools: Adjustable Spanner

Time: 5 min.

	<p>Removing the 40mm swivel wheels, each with its "push-fit" wheel-mount adapter is essentially the reverse of the installation procedure for the Wheel-Mount assembly.</p> <p><b>The main difference is that the friction joint between the Cozy Heater feet and the wheel mount needs to be loosened to permit removal.</b></p> <p>Tools: Open-end or adjustable spanner Time: 5 minutes</p>
	<ol style="list-style-type: none"><li>1. Disconnect the Cozy Heater from the power source before commencing work.</li><li>2. Place the Cozy Heater on its side on a padded surface (eg. towel) on a stable bench or table. The Elbow Hose Outlet should be the UP side.</li><li>3. Use a suitable size open-end spanner or adjustable wrench, placed around the shaft of the wheel-mount adapter where you see the 2 flat sides.</li><li>4. Gently raise, then lower the spanner (cylindrical motion) to loosen the friction joint between the adapter and the Cozy Heater feet.</li><li>5. The wheel &amp; mount assembly should be easily pulled off with gentle retraction by hand.</li></ol>

## Use the Darvall Cozy™ Warm Air Heater with an appropriate warming blanket

- To prevent the risk of burning skin the Cozy Heater is designed to be connected to a purpose-made semi-permeable forced warm air blanket that distributes the warm air evenly around the animal.
- **Never place the heater nozzle next to an anaesthetized animal without connecting it to a purpose made warming blanket.** Even at 46°C/115°F, burning can occur with skin contact, typically >2hrs.
- The animal contacts the white, permeable side of the blanket, the yellow side is impermeable to air & water. Lay the blanket on the table under an animal or place in the cage or kennel, generally over the animal to minimise soiling.
- Attach the Darvall Cozy heater hose to the Warming Blanket
- Insert the hose nozzle into the warming blanket's entry port so as to minimize kinks at this point
- Wrap the blanket tapes firmly round the heater hose nozzle behind the flange to ensure a connection that does not leak air.
- **For use in surgery**, position the anaesthetized, clipped and prepped animal on the warming blanket, position the surgical drapes over the animal, THEN inflate the blanket. The blanket will conform around the animal and under the drapes without distorting the surgical drapes.



## Darvall Cozy™ Warm Air Heater Front Control Panel



The Darvall Cozy Heater Control Panel Icons cover Buttons operated by touch.




Selecting each Button sets warming temperature and fan speed.

When a system fault occurs, the display flashes and an alarm sounds.






The fault / error code will be shown on the display screen.

## Darvall Cozy™ Warm Air Heater Control Panel Indicators & Buttons

### 1. Control LED Indicators

	<p><b>Over temperature alarm indicator.</b> When illuminated steady red, the actual exhaust air temperature is in excess of the selected range.</p>
	<p><b>Power (standby) indicator</b> When illuminated steady green, means system is in standby mode.</p>
	<p><b>Temperature-in-range indicator</b> When illuminated steady yellow, means that the actual exhaust air temperature is not in the selected range (<math>\pm 3.0^{\circ}\text{C}</math>).</p>

### 2. Temperature Selection Buttons

	<p><b>High (43°C) button</b> When selected, the air Temperature set point is set to 43°C</p>
	<p><b>MID (38°C) button</b> When selected, the air Temperature set point is set to 38°C</p>
	<p><b>LOW (32°C) button</b> When selected, the air Temperature set point is set to 32°C</p>
	<p><b>Ambient button</b> When selected, the air Temperature set point is set to room temperature.</p>
	<p><b>Air flow button</b> When selected, the air flow will be toggled between high and low speed. LED on – Low Air Flow Mode; LED off – High Air Flow Mode.</p>

### 3. Power ON/OFF Button

	<p>Toggles system from Power Off to Standby Mode to Operating Mode</p>
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### 4. Display

Displays warning, alarms and relevant information of the Darvall Cozy Heater.

## Connecting the power

- Securely connect Darvall Cozy Warm Air Heater to a properly grounded power source.
- Turn the rear power switch on. The Darvall Cozy Warm Air Heater will perform its **Self-Test Sequence** (STS). During the STS, ALL the indicator LED's and the display will illuminate.
- After STS the Darvall Cozy will be operating in standby mode. The default set point is 32°C and the light on that temperature selection button will illuminate.
- The Power Button standby indicator will be illuminated in "Standby Mode".
- To completely SWITCH OFF the electrical power, press the POWER again.



## Selecting the Temperature

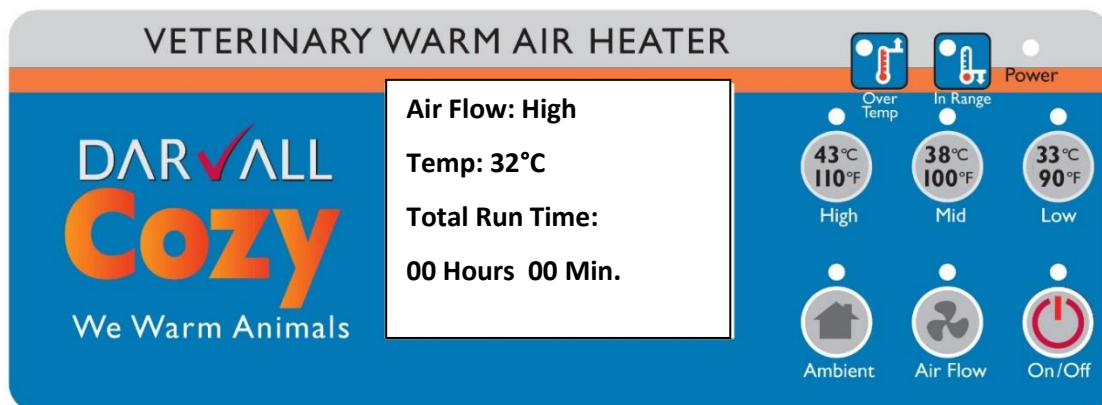
Select the temperature you wish to operate at and press that button.  
The LED light above the selected button will illuminate (green)

There are four Buttons for Temperature:

- 1. Ambient temperature**
  - a) Press “Ambient” (Room temperature) button.
  - b) The LED light above the button will illuminate.
  - c) The Darvall Cozy Warm Air Heater will draw in room temperature air through the HEPA filter.
- 2. 32°C**
  - a) Press “32°C” (LOW temperature) button.
  - b) The LED light above the button will illuminate
  - c) The Darvall Cozy Warm Air Heater will heat HEPA filtered air to LOW temp. setting = 32°C.
- 3. 38°C**
  - a) Press “38°C” (MIDDLE temperature) button.
  - b) The LED light above the button will illuminate.
  - c) The Darvall Cozy Warm Air Heater will heat HEPA filtered air to MIDDLE temp. setting = 38°C.
- 4. 43°C**
  - a) Press “43°C” (HIGH temperature) button.
  - b) The LED light above the button will illuminate.
  - c) The Darvall Cozy Warm Air Heater will heat HEPA filtered air to HIGH temp. setting = 43°C.

Temperature “In Range” Indicator (red light) will be turned off when the actual exhaust air temperature reaches the setting temperature ( $\pm 3^{\circ}\text{C}$ ).

## Switching to Operating Mode using the Power Button



1. Press **ON / OFF** button to switch the Darvall Cozy Heater from Standby Mode to Operating Mode.
2. The Darvall Cozy Heater will blow air and the Heater Hose temperature will gradually increase.
3. The temperature selection can be changed anytime when the Darvall Cozy Heater is in operating by pressing the desired temperature Button.

**Adjusting the fan speed** – Press the Air Flow Button to toggle between High and Low fan speed.

## Monitor the Animal's Response to Warming

- During warming, monitor the animal's temperature and vital signs every 20 to 30 minutes.
- Adjust air temperature or discontinue therapy when the therapeutic goal is reached.
- **Do not actively warm animals (mammals) above 37°C/98.6°F**
- For reptiles use lower temperatures
- The display flashes & the alarm sounds if the Heater air temperature is higher or lower than the selected temperature set point.

### Discontinuing Warming:

Press the power ON/OFF button. The Darvall Cozy will automatically turn off the heating system. The fan will continue to run for 30 seconds to cool the heater, then it switches into standby mode.

## Safety system and alarms

1. Switch the Darvall Cozy Heater on. The self-test starts.
2. All indicators on the Control Panel light up & the alarm sounds are tested.
3. This test indicates that the visible and audible alarm indicators are functioning correctly.
4. The LCD display will indicate when the Darvall Cozy Heater needs regular maintenance.

### The Darvall Cozy has 2 sensors

1. Sensor1: Temperature Sensor in the hose outlet. (Inside of the hose nozzle)
2. Sensor2: Temperature Sensor in the air outlet. (At the elbow of the hose)
3. During the STS (Self-Test Sequence), the over-temperature alarm will sound then turn off
4. During normal operation **NO temperature alarms should be displayed.**
5. The temperature alarms sound if the temperature limits are exceeded, for example if the Darvall Cozy Heater is set to warm to **43°C** and the Heater Hose outlet temperature sensor 1 is outside of  $43\pm 3^{\circ}\text{C}$  or Cozy Heater Outlet temperature sensor 2 is outside  $53\pm 3^{\circ}\text{C}$  the over temperature limit alarm sounds.

### If a "Temperature Alarm" Condition occurs

1. Unplug the power and wait for 5 minutes.
2. Reconnect the Darvall Cozy Warm Air Heater to a grounded power source. The Darvall Cozy Heater should reset using the the normal STS sequence.
3. Select a temperature setting and turn the Darvall Cozy Heater. It should function normally

### "High Level Temperature" Alarm Conditions

If the Darvall Cozy Heater senses that the Sensor 2 air temperature is above the  $53\pm 3^{\circ}\text{C}$  range, the red over-temperature alarm indicator illuminates and the alarm sounds within 5 seconds. At the same time, the display flashes and shows "Over Temperature". This alarm will continue until the temperature is lower than  $44^{\circ}\text{C}$ .

The Darvall Cozy automatically turns off the heater and fan. You can press "ON/OFF" button to switch the Darvall Cozy into standby mode.

If the **High Level Temperature Alarm Condition** re-occurs **turn off the power and unplug the Darvall Cozy Warm Air Heater from the wall outlet.**

If the Darvall Cozy Warm Air Heater does not return to normal operation after a resetting following a Temperature alarm **OR if there is a High Level Temperature Alarm Condition**, please contact the Darvall Cozy Heater distributor or AAS Customer Service or a qualified service technician.

### Fault Alarm Conditions Table

Fault #	LCD display	Alarm Sounds	Device State	Remark
E01	Sensor One ERR! Or Sensor Two ERR!	Low Pitch Trill 3 rings	1) LCD shows Sensor error. 2) Device stops working. 3) Alarm prompts. 4) Any operation is invalid.	Repeat interval of 10 seconds
E02	FAN ...ERR	Low Pitch Trill 3 rings	1) Fan stopped. 2) Alarm prompts.	Repeat interval of 10 seconds
E03	PTC ... ERR	Low Pitch Trill 3 rings	1) PTC heating element stopped working 2) Alarm prompts.	Repeat interval of 10 seconds
E04	OVER TEMPERATURE!	High Pitch Trill 5 rings	1) Temperature stops rising, Fan stops working after 60 seconds. 2) Alarm prompts. 3) OVER-TEMP indicator light flashing.	Repeat interval of 5 seconds
E05	LAST TIME ERR! PRESS ON/OFF KEY	Low Pitch Trill 3 rings	1) Loss of power 2) Alarm sounds once	Heater shuts down automatically

## Fault Alarm Troubleshooting Table

Fault #	Possible Cause	Solution
E01	One or two temperature sensors are electrically disconnected, or sensor is faulty.	<ol style="list-style-type: none"> <li>1) Unplug Darvall Cozy Warm Air Heater and wait for 5 minutes.</li> <li>2) Check that the hose is connected firmly to the device, then restart the Darvall Cozy.</li> <li>3) If the display shows the same fault code, contact a qualified service technician to replace the sensors.</li> </ol>
E02	Fan does not run, or is faulty	<ol style="list-style-type: none"> <li>1) Unplug Darvall Cozy Warm Air Heater and wait for 5 minutes.</li> <li>2) Restart the Darvall Cozy.</li> <li>3) If the display shows the same fault code, contact a qualified service technician to replace the fan.</li> </ol>
E03	PTC heating element is electrically disconnected, or is faulty	<ol style="list-style-type: none"> <li>1) Unplug Darvall Cozy Warm Air Heater and wait for 5 minutes.</li> <li>2) Restart the Darvall Cozy.</li> <li>3) If the display shows the same fault code, contact a qualified service technician to replace the PTC heater.</li> </ol>
E04	Over Temperature Sensor1 or Sensor2 at more than alarm detection limit.	<ol style="list-style-type: none"> <li>1) Discontinue Cozy Warm Air Blanket System warming immediately. Disconnect Cozy heater hose nozzle from the warm air blanket immediately</li> <li>2) Press ON/OFF to eliminate the alarm immediately and enter the standby mode. If not, the alarm sound and indicator light flashing will continue</li> <li>3) Fan stops working after 1 min.</li> <li>4) If the display shows the same fault code, contact a qualified service technician to replace the fan.</li> </ol>
E05	Loss of power	<ol style="list-style-type: none"> <li>1) After one alarm sounds, the device shut down automatically.</li> <li>2) Unplug Darvall Cozy Warm Air Heater and wait for 5 minutes.</li> <li>3) Restart the Darvall Cozy.</li> <li>4) If the same fault appears, contact a qualified service technician.</li> </ol>

## Darvall Cozy Air Filter 0.2um HEPA - Routine Maintenance

The Darvall Cozy Warm Air Heater has a 0.2 um HEPA Air Filter at the intake air inlet, located on the underside of the housing.

**Replace the 0.2 um HEPA Air Filter every 500 hours or every 6 months or of use** in normal Veterinary Hospital environments. Change more frequently in dusty environments.

- If the filter becomes obstructed with dust and hair the risk of contamination of the warmed air with microbes may increase.
- The warming efficiency of the Darvall Cozy Warm Air Heater depends on BOTH the temperature and volume of flow of warmed air into the blanket. Regularly changing the filter ensures maximum warming efficiency and will prolong the life of the Cozy Heater.
- The Darvall Cozy Warm Air Heater is unique as it has been designed to facilitate easy replacement of the 0.2 um HEPA Air Filter by the end-user. This should ensure that the filter is replaced regularly, cost-effectively and without any inconvenience to clinical use.

**There is Minimal Infection Risk using warm air heating during surgery in an appropriate manner.**

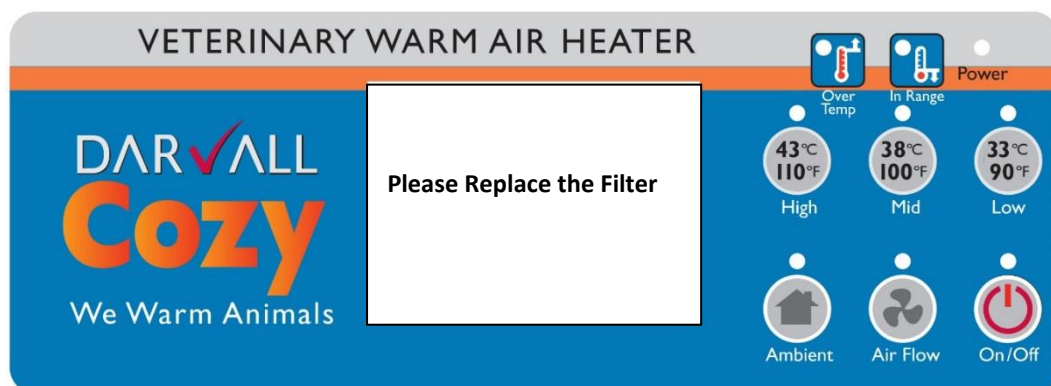
For any sterile procedure, use of a new Darvall Warm Air Blanket is advisable. In human surgery, compared to no warming, the use of forced warm air heating is associated with lower rates of infection if the heater is properly maintained, the filter changed regularly and new warm air blankets are used for each surgery.

**The Darvall Cozy Warm Air Heater is intended to be used on wheels** to elevate the heater above the floor and minimize contamination of the HEPA Air Filter with dust and hair. If the Cozy Heater is not mounted on wheels, and IV Pole Stand or Hung on a Kennel door, ensure that the Cozy Heater is not placed on a soft or uneven surface since the air intake may become obstructed, causing the Darvall Cozy to overheat.

## Replacement of the air filter 0.2um HEPA

When Darvall Cozy Warm Air Heater runs for 500 hours, the indicator light on the ON/OFF button will flash, the Darvall Cozy will then switch into standby mode and the LCD screen will display “Please replace the filter”.

**The air filter must be replaced**



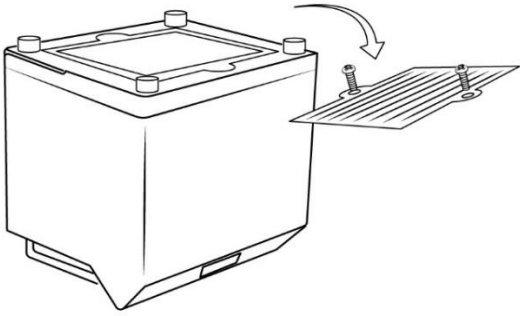
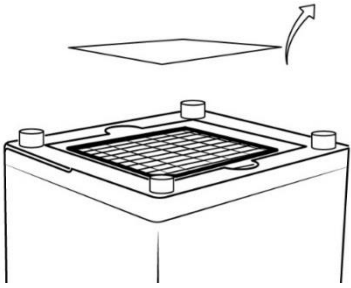
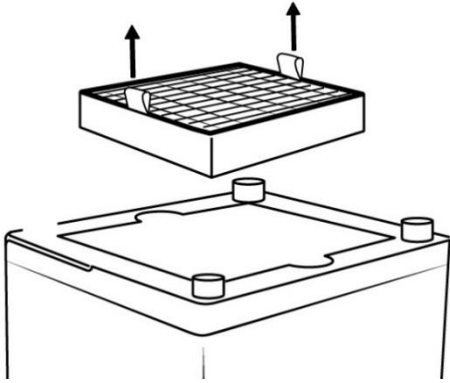
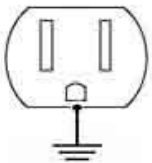

**Replacement Air Filter: AAS PN 9704 – Darvall Cozy™ Air Filter Cartridge 0.2um HEPA**



## Replacing the Darvall Cozy™ HEPA Air Filter

Tools: Phillips Head Screwdriver Time: 10

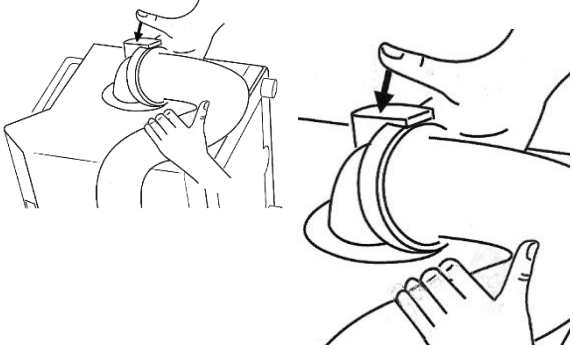
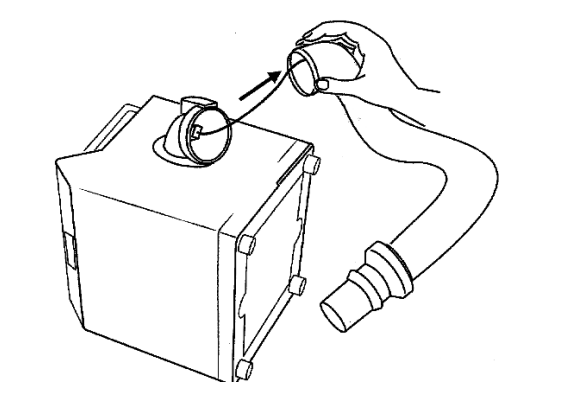
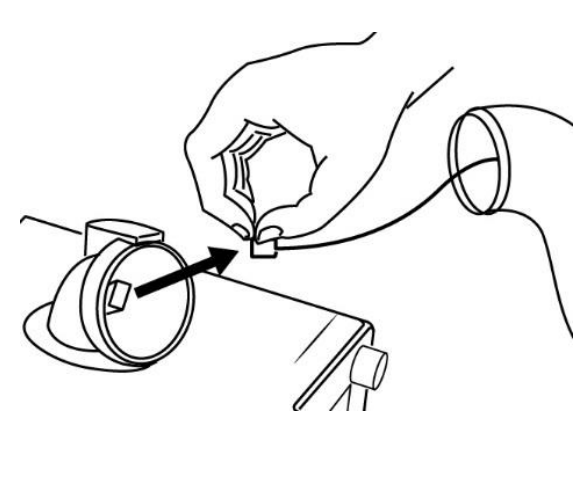
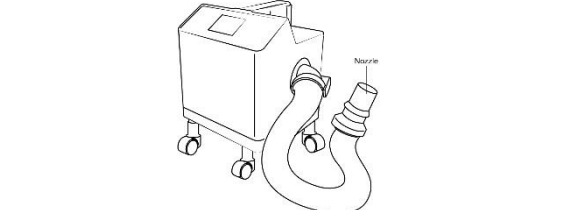
min

	<ol style="list-style-type: none"> <li>1. Note the date on the “Filter Changed” label on the rear of the Darvall Cozy Heater – change every 6 months OR 500 hours of use.</li> <li>2. Disconnect the Cozy Heater from the power source before commencing air filter replacement.</li> <li>3. Place the Cozy Heater on its top or side on a padded surface (eg towel) on a stable bench or table. If on its side, the elbow Hose Outlet is on the up side</li> </ol>
	<ol style="list-style-type: none"> <li>4. Locate the filter cover plate on the base (underside where the wheels are) Use a Phillips-head screwdriver to remove the 2 Phillips head screws on opposite sides of the cover plate.</li> <li>5. Lift the filter cover plate Off and you should see the Pre-filter pad</li> <li>6. Lift out the Pre-filter pad</li> <li>7. Hold the “pull tabs” of the HEPA filter and lift out. It should pull out easily.</li> </ol>
	<ol style="list-style-type: none"> <li>8. Open new filter box and take out the HEPA air filter and “Filter Changed” sticky label</li> <li>9. Install the new HEPA filter as show with “Pull tabs” facing out</li> <li>10. Clean (vacuum) and re-install the Pre-Filter (either side up)</li> <li>11. Replace filter cover and the 2 Phillips Head screws.</li> <li>12. Use a pen to write the date of filter change on the new “Filter Changed” sticky label. This label can be stuck on the side of the Darvall Cozy Heater or rear above the S/N label.</li> </ol>
	<ol style="list-style-type: none"> <li>13. Check Wheels are firmly in position and turn the Cozy Heater over and stand on its wheels</li> <li>14. Reconnect the Darvall Cozy Heater to a grounded power source. It is now ready to turn on power and run</li> </ol>
	<ol style="list-style-type: none"> <li>15. Press ON/OFF button on the front control panel &amp; hold for more than 30 seconds. The Run Time is cleared &amp; the Darvall Cozy Heater starts its Self-Test Sequence (STS). Once finished, the Heater goes back to its “ready” state.</li> <li>16. The Cozy Heater is ready to use.</li> </ol>

## Replacing the Darvall Cozy™ Heater Hose

Tools: None

Time: 5 min

	<ol style="list-style-type: none"> <li>1. Disconnect the Cozy Heater from the power source before commencing work.</li> <li>2. Place the Cozy Heater on its side on a padded surface (eg. towel) on a stable bench or table. The Elbow Hose Outlet should be the UP side.</li> <li>3. Press the Elbow Hose Outlet locking lever down with your thumb.</li> <li>4. There is a locking “lug” inside the Elbow Outlet on the opposite side to the lever that retains the Hose end. Gently tilt the Hose end towards the heater body and lift the Hose upward and out.</li> </ol>
	<ol style="list-style-type: none"> <li>5. Holding the heater hose with one hand, gently lift it away from the Elbow Outlet on the side of the heater body</li> <li>6. You will notice a wire running from inside the Heater Hose into the Elbow Outlet. This wire connects to Temperature Sensor 2 at the Nozzle end of the Heater Hose.</li> <li>7. With Heater Hose removal and installation of a new hose, the temperature sensor wire <b>MUST BE</b> disconnected (old hose) and re-connected (new hose). If Temperature Sensor 2 is not connected, the Darvall Cozy Heater <b>WON'T RUN!</b></li> </ol>
	<ol style="list-style-type: none"> <li>8. Disconnect Temperature Sensor cable plug inside the Elbow Outlet. Note the plug is indexed so only fits 1 way.</li> <li>9. Remove the Darvall Hose Cover and install on the <b>NEW</b> Heater Hose</li> <li>10. Install the Temperature Sensor cable plug inside the Elbow Outlet, plug is indexed so goes 1 way</li> <li>11. Connect Heater Hose end to the Elbow Outlet. Make sure the “lug” inside the Elbow Outlet is engaged with the flange on the hose end.</li> <li>12. Press the Elbow Hose Outlet locking lever down with your thumb to the open position and left the Heater Hose End into position, then release the lever so it also engages the flange on the Heater Hose end.</li> </ol>
	<ol style="list-style-type: none"> <li>13. Place the Cozy Heater back on its wheels.</li> <li>14. Reconnect the power supply and turn the Cozy Heater on so it goes through the “Self Test Procedure” to verify that the Hose End Temperature Sensor 2 is correctly connected</li> </ol>



## Modes of Cozy Heater Operation

STS	Self-Test Sequence
PTC	Positive Thermal Coefficient Ceramic Heater
Sensor 1	Temperature Sensor in the hose outlet (inside of the hose nozzle)
Sensor 2	Temperature Sensor in the air outlet. (At the elbow of the hose)
Standby Mode	<p>When entering Standby mode, the following events occur:</p> <ul style="list-style-type: none"> <li>• PTC heater turns off.</li> <li>• The fan turns off after 30 seconds delay.</li> <li>• The Hour Timer pauses.</li> <li>• Alarm and fault detection functions remain active.</li> </ul> <p>The Darvall Cozy can be put into standby mode in one of the two ways:</p> <ol style="list-style-type: none"> <li>1) At power on with the power switch on the back panel;</li> <li>2) If the Darvall Cozy is operating at one of the 4 operating temperatures, to switch the Darvall Cozy into Standby mode, press the <b>ON/OFF</b> button.</li> </ol>
Operating Mode	<p>When entering operating mode, the following events occur:</p> <ul style="list-style-type: none"> <li>• Unit will attempt to control the temperature as selected by the illuminated Temperature Selection Button.</li> <li>• Fan operates.</li> <li>• Except in Ambient Temperature Mode, PTC (Positive Thermal Coefficient Ceramic) heater will be activated.</li> <li>• Hour meter will be activated.</li> <li>• Temperature at the hose nozzle appears in the LCD display.</li> <li>• <b>TEMP in RANGE</b> indicator light illuminates when the temperature at the blanket end of the hose is within <math>\pm 3.0^{\circ}\text{C}</math> of the selected setting; this indicator light does not illuminate in Ambient Temperature Mode.</li> </ul> <p>The Darvall Cozy can be put into operating mode by pressing the <b>ON/OFF</b> button on the front control panel.</p>

## The AAS Warranty

This warranty is given of all other warranties, expressed or implied.

No statement or claim about the product by an employee, agent, or dealer of AAS shall constitute a warranty by AAS or give rise to any liability or obligations of AAS.

Subject to the next sentence, AAS warrants that each product or part shall be free from defects in workmanship and materials, under normal use and with proper maintenance, for two (2) years from the date of delivery to the customer (NOTE: DARVALL DVM VAPORISER CARRIES A FIVE (5) YEAR WARRANTY.) For plastic, rubber and consumable items, AAS warrants only that each part and item shall be free from defects in workmanship and materials at the time of delivery to the customer.

AAS's obligation for breach of this warranty or negligence or otherwise, shall be strictly and exclusively limited to AAS's choice of repair or replacement of the product or part.

This warranty shall be void for any product that has no serial number or if the product has been tampered with including removal of security labels.

AAS shall not be liable for any damage, injury or loss arising out of the use of the product, whether as a result of a defect in product or otherwise, if, prior to such damage, injury or loss, the product was (1) damaged, misused, or misapplied; (2) repaired, altered or modified by persons other than AAS or AAS approved service persons; (3) not installed in strict compliance with instructions.

**Equipment Repair:** AAS offers repairs on all AAS machines. AAS not only provides quick turn-around on repairs, but also has a loaner program so NO downtime is required.

### Shipping Procedures

Repairs on all products will be accepted with authorisation numbers. However, the following information is required: letter stating the problem, serial number, purchased from, time of purchase, phone number and address.

### Return Goods

There is NO restocking fee or return freight charges on products purchased from AAS that have been incorrectly supplied. (NOTE: If a product is found to have been misused or in any way damaged after shipment from AAS charges will be made for the repairs). A restocking fee of 15% and return freight charges apply to goods wrongly ordered by the customer. AAs reserves the right to waive these charges at its discretion.

### The following items will not be accepted for credit if the original packaging is open:

Consumable breathing systems including standard absorbers, breathing bags, circuits and hoses  
Merchandise more than 90 days from invoice date  
Custom or special orders

### Return Merchandise Authority number is required for product/equipment repair or service.

AAS can provide return freight labels via e-mail or fax to facilitate quick turnaround.

Freight collect shipments are not accepted.

Freight charges will not be credited

The customer must provide photograph evidence of damage to packaging and goods during shipping to enable a claim to be assessed.

### Warranty Returns

Defective items will, at AAS discretion, either be repaired or replaced at equal value.

Freight charges to ship warranty replacement or warranty-repaired merchandise to customer will be paid by AAS. Where available Loaner units are available at no charge for warranty repairs. Loaners shall be returned within 7 days or a charge will be invoiced to the customer.