Teleflex Medical
3015 Carrington Mill Blvd., Morrisville, NC 27560

Non-sterile Heated Humidifiers – RTP-HD-T5008

REPRESENTATIVE LABELS/ INSTRUCTIONS FOR USE

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HUDSON RCI®

aquatherm® III
Nebulizer Heater

International
Operating Manual

Rx ONLY 

Teleflex™
MEDICAL

aquatherm® III

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Features

Illuminated power switch

Temperature control knob

Adjustable temperature range

Corrosion-resistant metal components

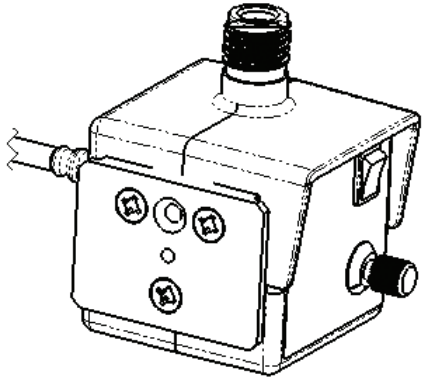


Figure 1:
Aquatherm III Heater

Introduction

Intended Use

The Hudson RCI® Aquatherm® III External Adjustable Electronic Heater is designed for use with the Hudson RCI Nebulizer Adaptor and the Aquapak® system to provide continuous heated aerosol for respiratory applications.

Heater Operation

The Hudson RCI Aquatherm III Heater is placed between a nebulizer adaptor and a reservoir of sterile solution. When gas flow is initiated to the nebulizer, sterile solution is drawn up from the reservoir and through the stainless steel puncture pin in the center of the Hudson RCI Aquatherm III Heater. The solution is heated as it flows through the pin. The heated solution is then drawn into the nebulizer adaptor where it is aerosolized into the patient gas stream.

Rainout within the nebulizer adaptor returns to the reservoir bottle via a rainout return tube. The warmed rainout gradually raises the temperature of the reservoir contents, increasing the overall heat output of the device. An electronic temperature control circuit provides consistent heating across a wide range of adjustments. A non-reversing thermal fuse prevents overheating in the event the control circuit fails.

Warnings and Cautions

This manual uses special indicators to convey information of a specific nature.
A warning is a condition that can endanger an operator, patient or a service person.
A caution is a condition that can damage equipment.

These are the warnings and cautions for the Aquatherm III Nebulizer Heater:

Warning: Fire Hazard. Do not use the heater in the presence of flammable anesthetic gases.

Warning: Burn Hazard. Internal components are hot, up to 135 °C and may contain liquid heated to temperatures of up to 100 °C. Allow the heater to cool before handling.

Warning: Electrical Shock. Refer all servicing to qualified, trained personnel only.

Warning: Always measure and verify the aerosol temperature before connecting the heater to the patient.

Warning: The use of accessories, transducers, and cables other than those specified may result in increased emissions or decreased immunity of the Aquatherm III Nebulizer Heater.

Warning: The Aquatherm® III Nebulizer Heater should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the Aquatherm III Nebulizer Heater should be observed to verify normal operation in the configuration in which it will be used.

Warning: This unit requires 220–240 AC, 50 Hz sine wave input. When used in ambulances, helicopters and other mobile life support vehicles requiring an invertor, do not use square wave or pulse-width modulated sine wave output. Overheating could result.

Warning: Do not operate the heater without oxygen or air flow to the nebulizer adaptor.

Warning: Always measure and verify the oxygen concentration before connecting the heater to the patient.

Warning: Gas temperature, room temperature, flow rate, entrainment collar setting, and aerosol delivery tube length all affect the output temperature, and depending on conditions may result in aerosol delivery exceeding 41 °C at the patient.

Warning: No modification of this equipment is allowed.

Caution: Do not autoclave, gas sterilize, pasteurize or immerse this device in liquid. Severe equipment damage will result.

Caution: Do not operate the heater with a dry reservoir bottle.

Caution: Do not leave the power ON while changing a reservoir bottle.

Caution: Do not overtighten the reservoir bottle.

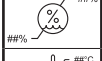
Caution: Always ensure the heater is aligned in a vertical position for best performance.

Caution: Not for use with any type of ventilator.

Caution: Do not operate heater without monitoring aerosol temperature at the patient interface.

Symbols

The following symbols are used in this manual and on the heater labels:

Symbol	Definition	Symbol	Definition
I	Power ON		Consult Instructions for Use
O	Power OFF		Follow Instructions for Use
A	Ampere	**Rx ONLY**	Rx Only
~	Alternating Current		Caution
V	Volt		Product is not sterile
Hz	Hertz		Warning: Hot Surface
	Protective Earth (ground)	REF	Catalogue Number
IPX0	Ordinary Equipment		Manufacturer
	Humidity Limitation		Date of Manufacture
	Temperature Limitation	LOT	Batch Code
	Do not dispose in landfill, return to manufacturer for recycling	SN	Serial Number

Operating Environment

Ignition Sources

All sources of ignition must be kept away from the Aquatherm III Nebulizer Heater, and preferably out of the room in which the heater is being used. In a hospital environment, an incubator is an example of an ignition source. “NO SMOKING” signs should be prominently displayed.

Electromagnetic or Other Interference Caution

Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual. Portable and mobile RF communications equipment can affect Medical Electrical Equipment.

This equipment has been tested to EN60601-1-2 and found to comply with the electromagnetic compatibility requirements for medical devices. It is important to install and use this Aquatherm III Nebulizer Heater in accordance with the instructions, to prevent harmful interference to other devices in the vicinity.

To determine if this equipment does cause harmful interference to other devices, turn the heater OFF and then back ON. If interference is observed when the heater is operating, try to correct the interference by one or more of the following measures:

- Reorient or relocate other device(s) in the surrounding area.
- Increase the separation between other device(s).
- Connect this device into an outlet that is on a circuit different from the other connected device(s).
- Consult the manufacturer or field service technician for help

Guidance and manufacturer's declaration - electromagnetic emissions		
The Aquatherm III Heater is intended for use in the electromagnetic environment specified below. The customer or the user of the Aquatherm III Heater should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The Aquatherm III Heater uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Aquatherm III Heater is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration - electromagnetic immunity			
The Aquatherm III Heater is intended for use in the electromagnetic environment specified below. The customer or the user of the Aquatherm III Heater should assure that it is used in such an environment.			
Immunity test	**IEC 60601**	**Compliance**	**Electromagnetic environment - guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/ output lines	±2 kV for power supply lines ±1 kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV common mode ±2 kV differential mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (<95% dip in U_T)for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T)for 5 sec	<5% U_T (<95% dip in U_T)for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T)for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Aquatherm III Heater requires continued operation during power mains interruptions, it is recommended that the Aquatherm III Heater be powered from an uninterruptible power supply or battery.
Power frequency (50/60 Hz) magnetic field transient /burst IEC 61000-4-6	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a.c. mains voltage prior to application of the text level.			

Guidance and manufacturer's declaration - electromagnetic immunity

The Aquatherm III Heater is intended for use in the electromagnetic environment specified below. The customer or the user of the Aquatherm III Heater should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic enviornment - guidance
Conducted RF IEC 61000-4-6	3Vrms 150kHz to 80MHz	3V	Portable and mobile RF communications equipment should be used no closer to any part of the Aquatherm III Heater, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = [3.5/V_1]\sqrt{P}$ $d = [3.5/E1]\sqrt{P}$ 80 MHz to 800 MHz $d = [7/E1]\sqrt{P}$ 800 MHz to 2.5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufactured and d is the recommended separation distance in meters (m). Field strengths form fixed strengths from fixed RF transmitters, as determinded by an electromagnetic site survey, [a] should be less than the compliance level in each frequency range. [b] Interference may occur in the vicinity of equipment marked with the following symbol. 
Radiated RF IEC 61000-4-3	3 V/m 80MHz to 2.5GHz	3V/m	

NOTE 1: At 80MHz and 800MHz, the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

[a] Field strength from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Aquatherm III Heater is used exceeds the applicable RF compliance level above, the Aquatherm III Heater should be observed to verify normal operation. If abnormal performace is observed, additional measures may be necessary, such as reorienting or relocating the Aquatherm III Heater.

[b] Over the frequency range 150 kHz to 80 Mhz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the Aquatherm III Heater.

The Aquatherm III Heater is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Aquatherm III Heater can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Aquatherm III Heater as recommended below, according to the maximum output of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d=[3.5/V1]\sqrt{P}$	80 MHz to 800 MHz $d=[3.5/E1]\sqrt{P}$	800 MHz to 2.5 GHz $d=[7/E1]\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Specifications

Electrical Characteristics

Voltage and Power: 220–240 AC at 50 Hz, 0.8 A

Warning: This unit requires 220–240 AC, 50 Hz sine wave input. When used in ambulances, helicopters and other mobile life support vehicles requiring an invertor, do not use square wave or pulse-width modulated sine wave output. Overheating could result.

NOTE: Grounding reliability can only be achieved when connected to a grounded power receptacle.

Current:	0.8 A, maximum
Power Fuses:	3.15 A, 250V quick-acting, two (2) required
Thermal Fuse:	152 ºC non-reversing
Leakage Current:	< 100 µA
Dielectric Withstand:	1,500 V minimum for one (1) minute
Classification:	1
Mode of Operation:	Continuous
Protection Against Water Ingress:	IPX0

Physical Characteristics

Weight:	860 g
Dimensions:	119 mm (H) x 81 mm (W) x 82 mm (D)
Power Cord:	Three-conductor cable, unshielded
Size:	3 x 1.00mm^2
Power Cord Length:	2.5m
Solution:	Use only Hudson RCI Aquapak Reservoir
Nebulizer:	Use only Hudson RCI Aquapak Nebulizer Adaptors

Storage and Transportation Environment

Temperature:	-20 °C to 50 °C (-4 °F to 122 °F)
Relative Humidity:	0% to 94% (non-condensing)

Operating Environment

Temperature:	18 °C to 26 °C (64 °F to 79 °F)
Relative Humidity:	30% to 75% (non-condensing)
Pressure:	700 to 1060 hPa

Controls and Indicators

Main Power Switch

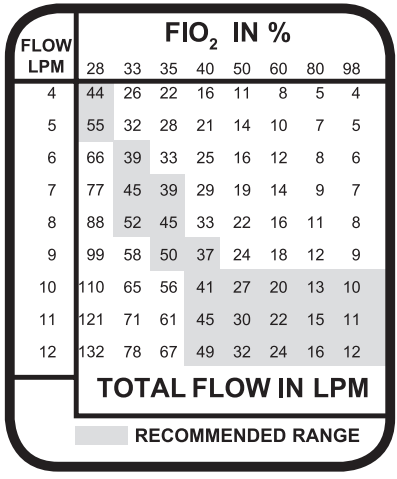
This switch is illuminated when the heater is turned ON.

Temperature Control Knob

Adjusts the temperature of the heater, within a range of 1 to 7 (Approximately 25°C to 37°C).

Flow Chart Label

A chart for Total Oxygen Flow is printed on the side of each heater.



FLOW LPM	FIO_2 IN %							
	28	33	35	40	50	60	80	98
4	44	26	22	16	11	8	5	4
5	55	32	28	21	14	10	7	5
6	66	39	33	25	16	12	8	6
7	77	45	39	29	19	14	9	7
8	88	52	45	33	22	16	11	8
9	99	58	50	37	24	18	12	9
10	110	65	56	41	27	20	13	10
11	121	71	61	45	30	22	15	11
12	132	78	67	49	32	24	16	12

TOTAL FLOW IN LPM

RECOMMENDED RANGE

The flow chart shows the oxygen flow rate from the O_2 or air source in the left hand column, in liters per minute (LPM). The numbers across the top show the Fractional Concentration of Inspired Oxygen, (FIO_2) in percent, as printed on the entrainment collar.

The numbers given at the intersection of the flow and FIO_2 values represent the total flow emitting from the nebulizer adaptor outlet, for delivery to the patient.

A recommended range for this number is highlighted on the label. Locate the point where these two numbers intersect to determine the Total Flow in LPM.

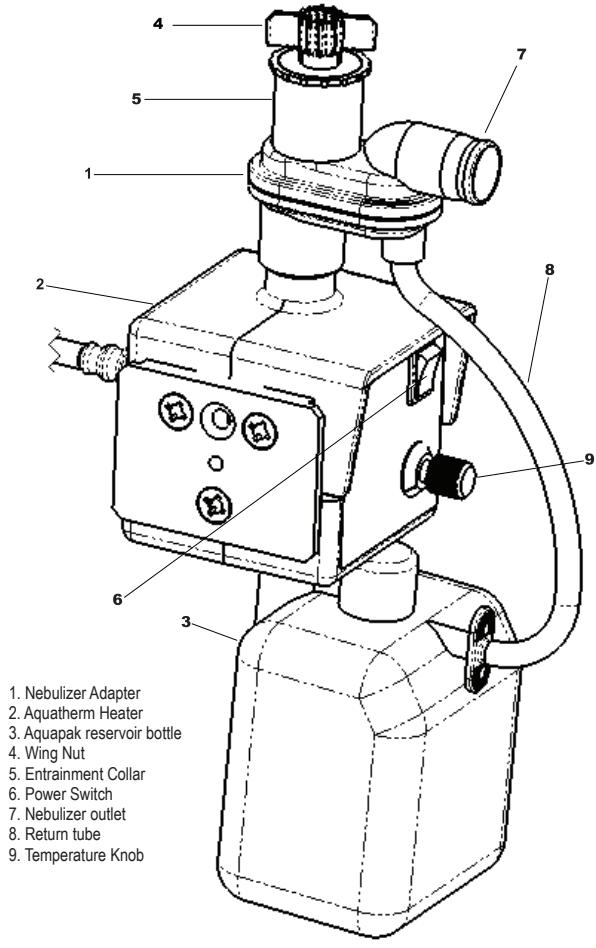


Figure 2:
The Aquatherm system using a nebulizer and Aquapak reservoir.

Directions for Use

Installing the Heater

Performance of this procedure requires a compressed gas source, a clean, unused nebulizer adaptor and a Hudson RCI Aquapak reservoir bottle. The Aquatherm is intended to be installed and monitored by trained medical professionals.

Thoroughly clean and test the heater before installing and placing it in service.

When this assembly is complete, the reservoir bottle is suspended from the bottom of the heater and does not rest on a surface.

Temperature is measured at the output end of the sixty inch hose, closest to the patient.

To connect the Aquatherm to main power, plug the device in. To cut power to the Aquatherm, unplug the device. Ensure that the device is positioned in such a way that disconnection from main power is not impeded.

Caution: Always ensure the heater is aligned in a vertical position for best performance.

1. Check the heater to be sure all surfaces are clean and intact. Wipe the heater with a damp cloth and mild detergent if necessary.
2. Turn the power switch to OFF.
3. Turn the temperature control knob to the number “1,” fully to the left.
4. Attach a clean, unused nebulizer adaptor to the threaded nebulizer connection on top of the heater.
5. Connect the Hudson RCI Aquapak reservoir to the threaded reservoir connection at the bottom of the Aquatherm III Heater. Insert the flange on top of the bottle into the fitting underneath the heater. Turn the bottle to the right until it is secured to the bottom of the heater and stops. Do not overtighten.
6. Remove the plastic cap from the end of the nebulizer rainout return tube, to expose the connector pin.
7. Insert the pin into the round, ¼ inch (0.6 cm) diameter raised surface above the label. Use a slight twisting motion to pierce the plastic bottle and seat the pin. A brief “whoosh” sound may be heard as the pin pierces the bottle.
8. Screw the threaded, wing nut on top of the nebulizer adaptor onto the flow meter bottom flange on the oxygen source. Rotate the nut in a counterclockwise direction (as viewed from above) to attach it to the nebulizer adaptor. Ensure the nut is hand tight, do not overtighten.

9. Inspect all connections and ensure they are secure.

Placing the Heater in Service

Warning: Always measure and verify aerosol temperature before connecting the heater to the patient.

Warning: Always measure and verify oxygen concentration before connecting the heater to the patient.

Warning: Gas temperature, room temperature, flow rate, entrainment collar setting and aerosol delivery tube length all affect the output temperature, and depending on conditions may result in aerosol delivery exceeding 41 °C at the patient.

Warning: Do not operate the heater without oxygen or air flow to the nebulizer adaptor.

1. Connect the nebulizer to an oxygen or air source.
2. Plug the power cord into a grounded electical outlet. Ensure there is power at the outlet and that the outlet meets the voltage requirements stated in this manual.
3. If using oxygen, adjust the nebulizer entrainment collar and select the desired oxygen concentration. If using an air source, adjust the nebulizer entrainment collar to achieve the desired total flow.
4. Adjust the oxygen or air flow to the recommended flow rate. For use with compressors, adjust the outlet pressure to a level that achieves the desired total flow.
5. Connect aerosol tubing to the nebulizer outlet. Tubing specifications are not less than 152 cm in length and 22 mm in diameter of standard aerosol delivery tubing.
6. Connect open end of aerosol tubing to a thermometer or other device for monitoring aerosol temperature.
7. Connect to patient interface, such as a face mask, tracheostomy mask, or trache tee.
8. Turn the heater power switch ON.
9. Turn the temperature control knob to the right, to the desired setting. For all flow entrainment settings, it is recommended to set the heater temperature at the number 5 to start.
10. Allow 25 minutes for the outlet temperature to stabilize.
11. Adjust the temperature in small increments and allow about 20 minutes after each adjustment for the temperature to change and stabilize.

Changing the Reservoir

This procedure is performed to replenish the supply of water in the nebulizer system after a reservoir bottle has been emptied.

1. Turn the heater OFF and shut off the oxygen or air supply. It is not necessary to alter the setting on the temperature adjustment knob.
2. Remove the rainout, return puncture pin from the reservoir.
3. Carefully remove the empty reservoir from the heater by turning it to the left, in a counterclockwise direction, until it separates from the heater.
4. Connect a new Aquapak reservoir to the bottom of the Aquatherm III Heater. Insert the flange on top of the bottle into the fitting underneath the heater. Turn the bottle to the right, in a clockwise direction, until it is secured to the bottom of the heater and stops. Do not overtighten.
5. Connect the nebulizer rainout return tube to the return port on the reservoir.
6. Turn the heater power ON.
7. Turn the oxygen or air supply ON and adjust the oxygen flow to the desired setting.

Warning: Burn Hazard. Internal components are hot, 135 °C, and may contain liquid at temperatures to 100 °C. Allow the heater to cool before handling.

Caution: Do not operate the heater with a dry reservoir bottle.

Caution: Do not leave the power ON while changing the reservoir.

Caution: Do not overtighten the reservoir bottle.

Caution: Do not operate heater without monitoring aerosol temperature at the patient interface.

Removing the Heater from Service

This procedure is performed to remove the heater from service and properly store it after each use.

Warning: Burn Hazard. Internal components are hot, up to 135 °C, and may contain liquid at temperatures up to 100 °C. Allow the heater to cool before handling.

Caution: Do not autoclave, gas sterilize, pasteurize or immerse this device in liquid. Severe equipment damage will result.

1. Turn the heater OFF.
2. Turn the oxygen or air supply OFF.
3. Unplug the heater. Allow the heater to cool.
4. Turn the wingnut in a counter-clockwise direction, as viewed from the top, to disconnect the nebulizer adaptor and heater from the flowmeter. Hold onto the heater as you do this so it doesn't drop away from the connection.
5. Remove the reservoir from the bottom of the heater and discard.
6. Rotate the nebulizer/adapter on top of the heater in a counterclockwise direction until the heater separates from the nebulizer/adapter.
7. Discard the nebulizer.
8. Wipe the heater exterior with a mild detergent and a damp cloth.

Service

User-performed repairs during the warranty period will void the Aquatherm III warranty. Should your heater require service, contact Customer Service by telephone at 866-246-6990 or 919-544-8000, or by fax at 800-498-2604 for return authorization and shipping instructions.

You may authorize replacing your heater with a remanufactured or replacement heater. This authorization permits Teleflex Medical to ship you a replacement heater promptly after receiving your old heater. If you choose to have your serial-numbered heater serviced and returned, repairs and turnaround time may be longer than with the replacement program.

When returning a heater for service, please provide the following information in writing:

1. Your Returned Good Authorization (RGA) number, obtained from Teleflex Medical Customer Service.
2. Written approval to replace your heater OR written approval to service and return your original, serial-numbered heater.
3. Description of the nature of the malfunction. Please give specific details and describe the application.

Maintenance

No special maintenance is required for the Aquatherm III Heater. Periodically perform a diagnostic test as described below.

DIAGNOSTIC TEST:

1. Attach an 028 Nebulizer adaptor to the top of heater and tighten firmly.
2. Attach the 028 nebulizer to the flowmeter outlet.
3. Thread a full Aquapak bottle into the heater and connect return tube.

   IMPORTANT: Do not overtighten the heater on the AquaPak bottle. Tightening beyond the point where the bottle is punctured is not necessary and can result in a collapsed top and loss of seal.
4. Attach to a 150cm length of disposable 22mm corrugated tubing to the nebulizer output.
5. Adjust the nebulizer entrainment closure to 35% and adjust the flowmeter to 7 LPM.

6. Set heater temperature adjustment knob in a fully clockwise position (setting 7).
7. Plug heater into an outlet meeting the voltage requirements on the unit label.
8. Turn the heater main power switch ON. The power indicator must illuminate.
9. Allow Heater/Nebulizer/Bottle combination to operate for one hour.
10. Measure the aerosol temperature at output end of the 150cm hose. Temperature acceptance limits at nebulizer output are:

    Heater Output Limits: 32.2°C to 37.7°C.

NOTE: The ultimate temperature of the aerosol delivered to the patient at a given heater setting will be dependent on several environmental factors including but not limited to:

1. Entrainment setting on the nebulizer.
2. Total liter flow.
3. Room temperature.
4. Air source temperature.
5. Temperature of the water in the nebulizer bottle.
6. Thermal efficiency of the tubing.
7. Line voltage from the power source.
8. The accuracy of the temperature monitoring device.

Troubleshooting

Troubleshooting for the Aquatherm III Heater encompasses problems with electrical power, controlling the temperature of the aerosol gas stream to the patient and an interrupted flow of aerosol to the patient. The troubleshooting table on the next page identifies some of these conditions and makes recommendations to correct the condition.

Possible Cause(s)	Recommended Action
Problem: Power switch does not illuminate.	
1. Unit is not connected to Power. 2. POWER switch is in OFF position. 3. Fuse is blown.	1. Plug the power cord into the grounded electrical to power outlet. Ensure there is power at the outlet. 2. Turn POWER switch to the ON position. 3. Return the unit for service.
Problem: Heater temperature is too low.	
TEMP CONTROL knob is set too low.	Turn the temperature knob to the right, in small increments, toward the red zone. Wait 20 minutes and readjust as necessary.
Problem: Heater temperature is too high.	
TEMP CONTROL knob is set too high.	Turn the temperature knob to the left, in small increments, toward the blue zone. Wait 20 minutes and readjust as necessary.
Problem: Interrupted flow of mist to patient.	
1. Inadequate seal between heater and nebulizer adaptor. 2. Inadequate seal between heater and reservoir. 3. Dry or punctured reservoir, deformed threads. 4. Vapor lock, heater element too hot.	1. Check connection; if loose, tighten firmly. If a seal can't be made, attach a new Hudson RCI nebulizer adaptor. 2. Check connection; if loose, tighten gently; avoid overtightening. If seal can't be made, attach a new Aquapak reservoir. 3. Attach a new Aquapak reservoir. 4. Adjust the TEMP CONTROL knob one number down into the blue zone. Wait 10 minutes then take a temperature reading. If the temperature is too low, turn the temperature knob in small increments, to the red zone. Wait 20 minutes and readjust as necessary.

Warranty

The Aquatherm III Heater is warranted by Teleflex Medical Inc., hereafter called Teleflex Medical, against defects in materials and workmanship for a period of one year from the date of original purchase to the end user. During the warranty period, we will repair or, at our option, replace at no charge, any heater that proves to be defective, provided you return the heater, shipping prepaid, to the distributor from whom you purchased the heater.

This warranty does not apply if the device has been damaged by accident, misuse, or as a result of service or modification by someone other than Teleflex Medical.

No other express warranty is given. The repair or replacement of the device is your exclusive remedy. ANY OTHER IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS LIMITED TO THE ONE-YEAR DURATION OF THE WRITTEN WARRANTY. Some states, provinces or countries do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. IN NO EVENT SHALL TELEFLEX MEDICAL BE LIABLE FOR CONSEQUENTIAL DAMAGES. Some states, provinces or countries do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state, province to province or country to country.

This device is sold on the basis of specifications applicable at the time of manufacture. Teleflex Medical shall have no obligation to modify or update this device once sold.

For more information about the Aquatherm III warranty, contact an authorized Teleflex Medical distributor or Teleflex Medical.

HUDSON RCI®

aquatherm® III

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L02916 R01

aquatherm® III

Nebulizer Heater

en: International Operating Manual
L02916 R01

nl: Internationale gebruikershandleiding
L02919 R01

fr: Manuel de l'opérateur
L02920 R01

de: Internationale Betriebsanleitung
L02921 R01

it: Manuale d'uso internazionale
L02922 R01

es: Manual operativo internacional
L02923 R01

sv: Internationell Användarmanual
L02924 R01

Rx ONLY



AQUATHERM III NEBULIZER HEATER
OPERATING MANUAL

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CE 1639

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Athlone, Co. Westmeath
Ireland

TFX-004318 R01 CD Kit
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