

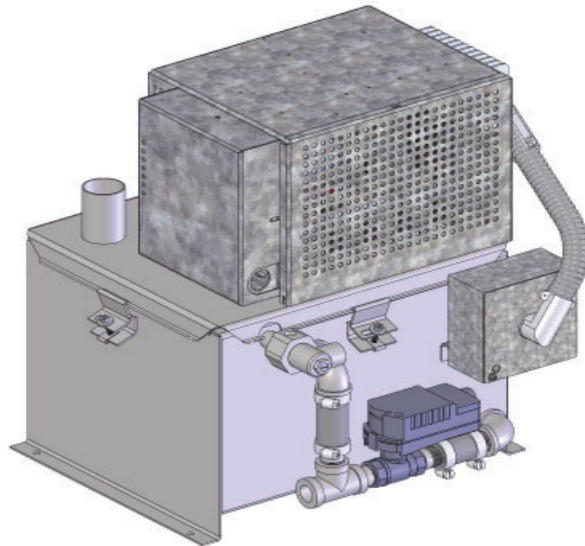


READ AND SAVE THESE INSTRUCTIONS

ER Series
w/LC23
Electric Humidifier

Installation Instructions

Operation and Maintenance Manual



Our results are comforting

PURE HUMIDIFIER® and INTAC® are registered trademarks of PURE Humidifier Co.

Form No: EROM-5-2026



*To the User of PURE Humidifier Co.'s
ER w/LC23 Humidifiers*

We at PURE Humidifier Co. thank you for choosing one of our quality products. PURE Humidifier Co.'s ER Series humidifiers are models of simplicity to install, operate and maintain. However, they must be maintained to provide maximum operating efficiency.

PLEASE READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY. PROPER OPERATION AND HUMIDITY CONTROL IS POSSIBLE ONLY WITH PROPER INSTALLATION AND MAINTENANCE.

The ER w/LC23 Series Humidifier utilizes a Tri-Probe conductive type water control system, which is designed for use with any water type.

High chloride content in feed water can cause chloride stress cracking and chloride pitting in stainless components. Chloride stress corrosion cracking (CSCC) and chloride pitting of stainless steel components is not covered by warranty. Do not use hydrochloric acid descalers or bleach to clean the tank. We offer an easy-to-use, non-toxic descaling solution to help keep your units clean and operating with maximum efficiency. Please contact your local PURE Humidifier representative for more information about our PURE Clean descaling solution.

To ensure proper installation of this product, it must be installed by qualified HVAC and electrical contractors, and must be in compliance with local, state, federal, and governing codes. If installed improperly this product may cause damage to property, severe personal injury, or death as a result of electric shock, burns, and/or fire.

Do not adjust any components inside humidifier control box without consulting the factory.

For indoor use only.



Table of Contents

Introduction	
Warnings	1
Overview	
Features	2
Capacities, Weights & Water Volumes	3
Electrical Data	3
Clearances & Mounting Considerations	4
Dimensions	5
Installation	
Installation & Mounting	6
Drain Pan Mounting	7
Piping	
Water Supply & Drain Piping	8
Drain Piping	9
Supply Piping Examples	10
Injection Tube Installation	11-12
Steam Supply Piping	13
Blower Pack	14-15
Controls Location	16
Operation	
Pre-Startup Checklist	17
ER Startup Procedure	18
Troubleshooting	19
Maintenance	
Maintenance Instructions	20
Tool Requirements and Torque List	21
Maintenance Notes	22
Spare Parts	
ER Exploded Parts Drawing	23
ER Parts List	24
Warranty	25



WARNINGS

PLEASE READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY. PROPER OPERATION AND HUMIDITY CONTROL IS POSSIBLE ONLY WITH PROPER INSTALLATION AND MAINTENANCE.

To ensure proper installation of this product, it must be installed by qualified HVAC and electrical contractors, and must be in compliance with local, state, federal, and governing codes. If installed improperly this product may cause damage to property, severe personal injury, or death as a result of electric shock, burns, and/or fire.

WARNINGS

SERVICING

Disconnect main power before servicing or maintaining humidifier.

The humidifier system including the humidifier tank, steam supply piping, condensate piping and steam distribution grid can be extremely hot and can cause burns if touched.

Do not use hydrochloric acid descalers or bleach to clean the tank. Consult the factory if you are unsure about which chemical descaler to use.

ELECTRICAL

Electrical work should be done by qualified electrical contractors and must be in compliance with local, state, federal, and governing codes.

PLUMBING

Plumbing and pressurized steam work should be done by qualified installers and must be in compliance with local, state, federal, and governing codes.

Drain and overflow water can be 212°F (100°C). If you are not using a DCT-927 Drain Tempering Kit, allow the water to cool before draining tank.

INSTALLATION

This humidifier produces steam at atmospheric pressure. Do not install any components between humidifier tank and steam distribution grid which can block or restrict steam flow.

Do not mount on hot surfaces.

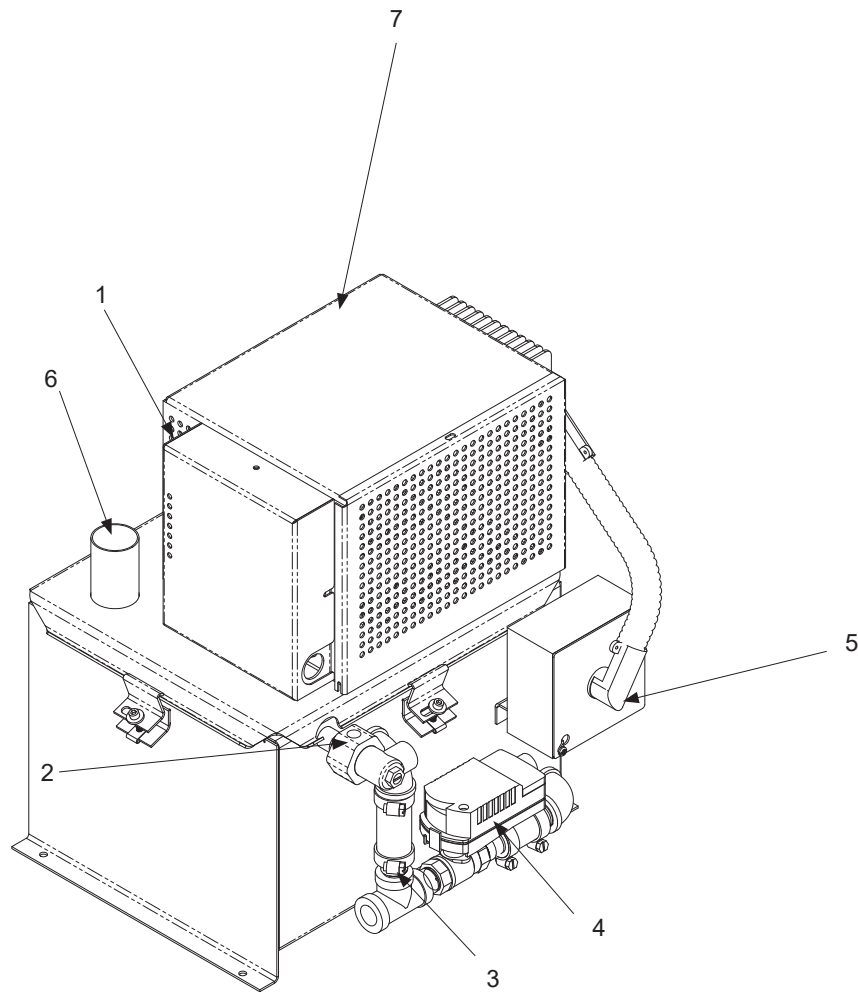
Do not mount on vibrating surfaces.

High chloride content in feed water can cause chloride stress cracking and chloride pitting in stainless components. Chloride stress corrosion cracking (CSCC) and chloride pitting of stainless steel components is not covered by warranty.

Do not adjust any components inside humidifier control box without consulting the factory.

For indoor use only.

Features



Features

1. LC23 Control Box
2. 1/4" NPT Fill Inlet Connection
3. Overflow Piping
4. Automatic Drain Valve
5. High Voltage Junction Box
6. Humidifier Steam Outlet Connection
7. Humidifier Control Box



Capacities, Weights & Electrical Specifications

Capacities & Weights

Standard Water Unit Model No.	Steam Output Capacity †		KW	Humidifier Reservoir Weight			
				Empty		Full	
	lbs/hr	kg/hr		lbs	kg	lbs	kg
ER-1	3	1.4	1	42	19	70	31.4
ER-3	9	4.1	3	42	19	70	31.4
ER-5	15	6.8	5	42	19	70	31.4
ER-6	18	8.2	6	42	19	70	31.4
ER-7	21	9.5	7	42	19	70	31.4

† The above capacities are based on 100% efficiency. Actual humidifier capacity may vary due to the heat loss from the humidifier reservoir. The ambient air temperature, air velocity, and injection tube system will affect the rate of heat loss from the humidifier reservoir.

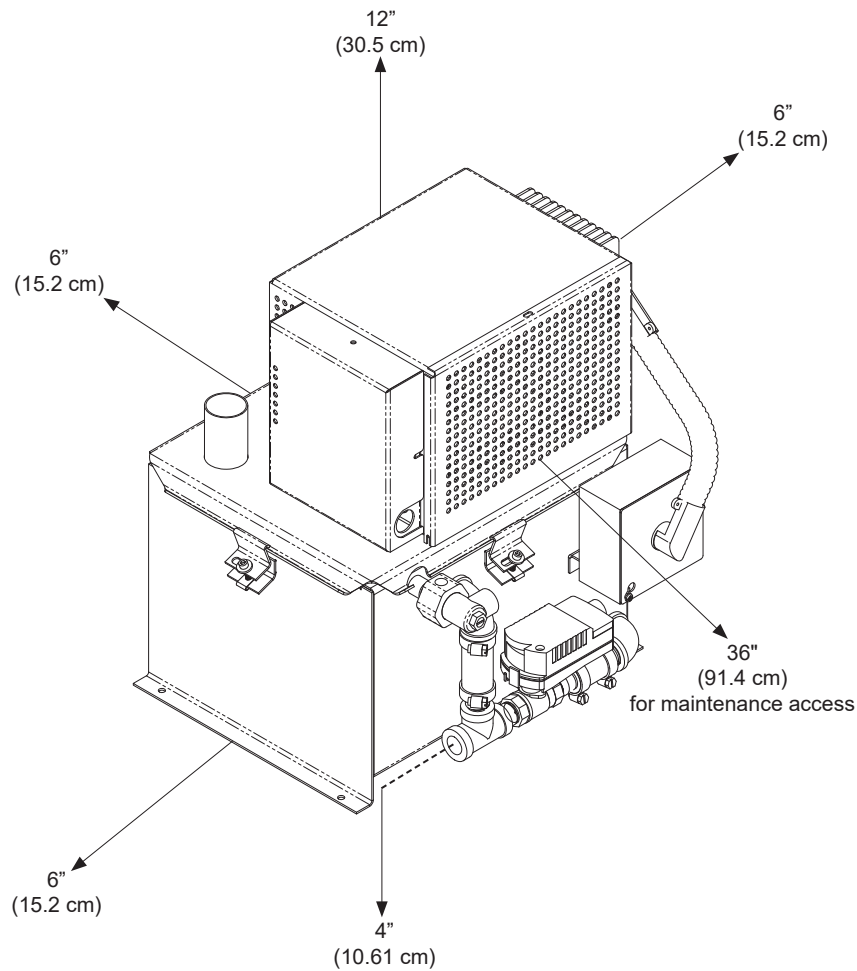
Single Phase Amperage*

Standard Water Unit Model No.	Unit KW						No. of Heaters	Heater KW	Control Circuit Voltage
		120V	208V	240V	480V	600V			
ER-1	1	8.3	4.8	4.2	2.1	1.7	1	1.0	24 vac
ER-3	3	25.0	14.4	12.5	6.3	5.0	1	3.0	24 vac
ER-5	5		24.0	20.8	10.4	8.3	2	2.5	24 vac
ER-6	6		28.8	25.0	12.5	10.0	2	3.0	24 vac
ER-7	7				14.6	11.7	2	3.5	24 vac

* Other voltages available upon request. Please consult factory for specific availability.



Clearances & Mounting Considerations



Mounting Location Considerations

Install in a location where the ambient air temperature is between 40°F - 100°F (4.4°C - 37.8°C) and relative humidity between 0% - 90% and non-condensing.

Install in a location where there is easy access to a water supply, electrical supply, and open sanitary drain.

Install as close as possible to the steam distribution grid.

Clearances shown are minimum recommendations only. Please consult local and national codes for final installation location.

Do not install where humidifier operational noise will be a nuisance.

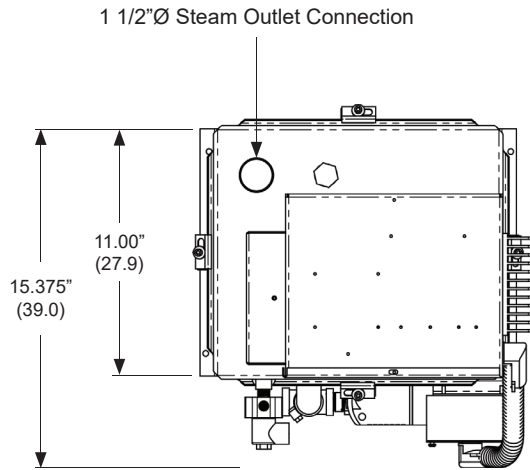
Allow enough room for proper water seal depths.

Do not install above any critical processes, equipment, or locations in case of a water leak.

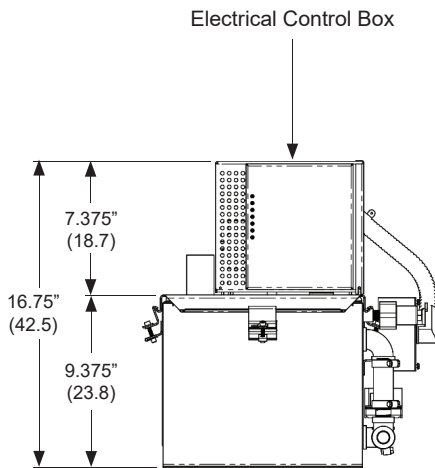
Do not install near variable frequency drives, electromagnetic equipment, or motors.



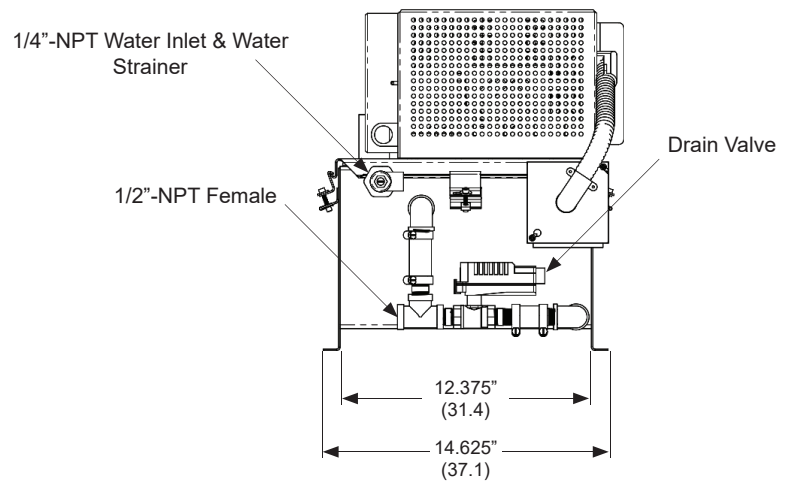
Dimensions



Top View



Front View



Right Side View



Installation & Location

Important: Remove all shipping brackets and materials before operating the humidifier. Power supply disconnect switch must be in the off position while making wiring connections to prevent electrical shock and equipment damage. All units must be wired in strict accordance with wiring diagram furnished with this unit.

Location

The location selected must provide for electrical service, cold or hot water supply, and sanitary drain.

When selecting a location, try to keep the humidifier within 10 feet (305 cm) of the duct to avoid unnecessary heat losses and condensation within the steam supply line.

Visible "fog" will saturate and condense when it contacts objects such as turning vanes, filters, fans, elbows or take-offs. The warmer the air, the more easily it will dissipate the visible steam. The most active and warmest portion of the duct will provide better mixing of the steam and air. The injection tube should be mounted a minimum of 2 feet (61 cm) downstream from an elbow or other turbulent air flow area.

Avoid mounting single style injection tube(s) closer than 8-10 feet (244-305 cm) upstream of objects that could become saturated and condense the steam (reference the paragraph above). If the duct layout does not provide a straight unobstructed run of 8-10 feet (244-305 cm), a multiple injection tube system should be considered to reduce the visible steam travel distance.

For Fast-Pac and Insty-Pac multiple tube assemblies please consult factory for job specific non-wetting distances.

Reference Fast-Pac or Insty-Pac O&Ms for full installation details.

CAUTION: Do not humidify upstream of filters. Consult factory.

CAUTION: Smoke detectors should not be located downstream of injection tube assemblies.

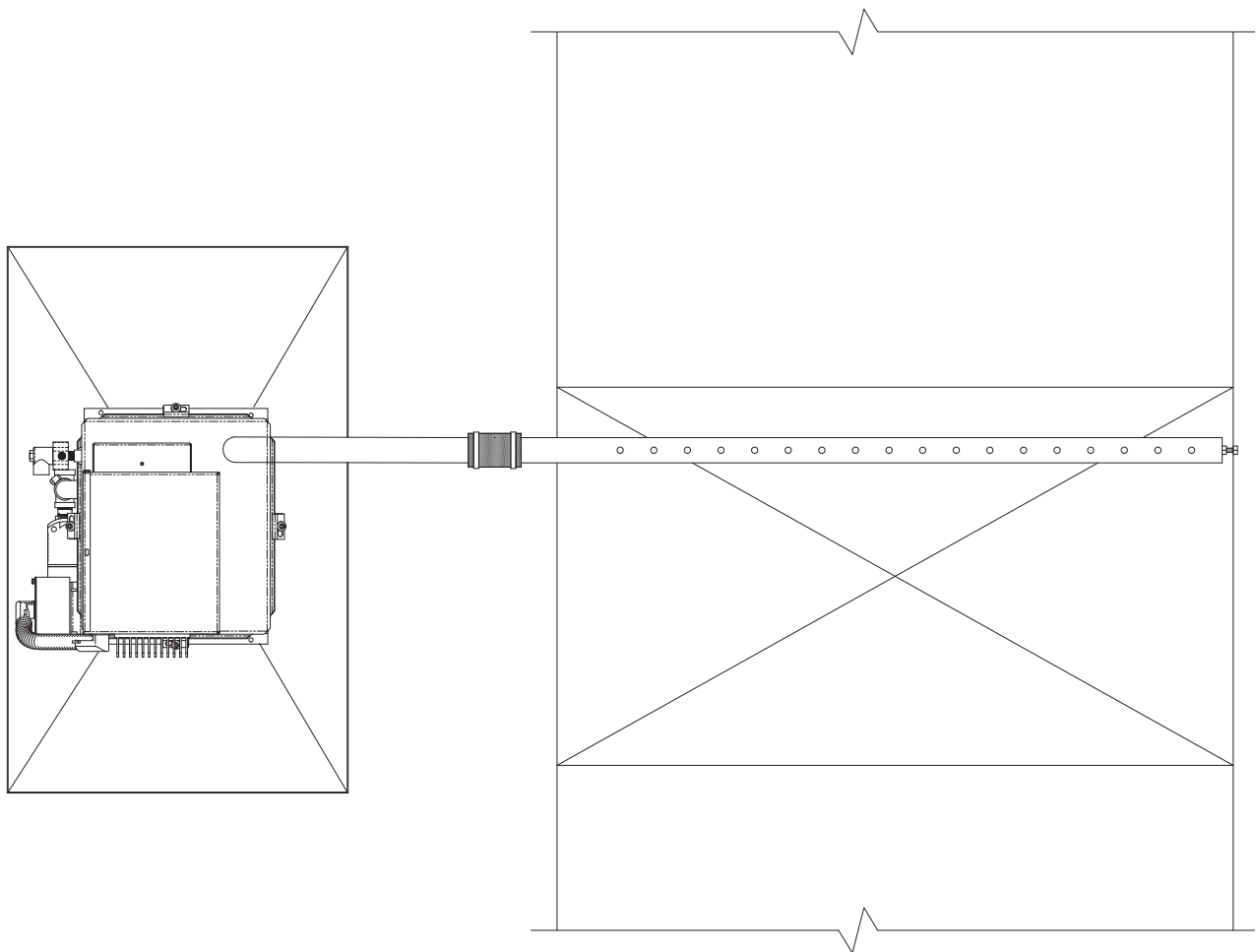
Location of Controls

It is important to avoid mounting any controls within the visible steam. The controls should be mounted a minimum of 8-10 feet (244-305 cm) downstream from the humidifier injection tube. Due to the temperature rise that exists within the visible steam dissipation area, thermostats should not be mounted near the injection tube.

High-limit humidistats should be installed before any duct obstruction to make sure the humidifier is interrupted before saturation can occur on the object. The high-limit should be mounted a minimum of 8-10 feet (244-305 cm) downstream from the injection tube. Installing the high-limit closer than 8 feet (244 cm) from the humidifier may cause erratic control.

Drain Pan Mounting

A drain pan is an additional safety feature which may be required to be supplied in the field. In a proper humidifier installation, a drain pan is not required. However, if the humidifier and injection tube are located in an area that contains valuable equipment or is a water sensitive area, PURE Humidifier Co. recommends the addition of a drain pan under the humidifier and under the injection tube. The drain pan should extend past all edges of the humidifier and if installed in the duct, it should extend a minimum of 3 feet (91 cm) downstream from the injection tube. The pan should be of a size which is capable of draining at a rate of 3 gpm for units with a capacity of up to 200 lbs/hr, and 5 gpm for units with a capacity over 200 lbs/hr. The pan should be drained to a sanitary drain.





Water Supply & Drain Piping

ALL DRAIN AND CONDENSATE PIPING MUST BE INSTALLED IN ACCORDANCE TO LOCAL PLUMBING CODES.

HIGH CHLORIDE CONTENT IN FEED WATER CAN CAUSE CHLORIDE STRESS CRACKING AND CHLORIDE PITTING IN STAINLESS COMPONENTS. CHLORIDE STRESS CORROSION CRACKING (CSCC) AND CHLORIDE PITTING OF STAINLESS STEEL COMPONENTS IS NOT COVERED BY WARRANTY.

Water Supply Piping

Supply pressure: 35-95 psi optimal

This style of humidifier utilizes a Tri-Probe conductive type water control system, which is designed for use with any water type.

Install stainless pipe on make-up water line within 5 feet of humidifier fill valve connection. If plastic pipe is used beyond this point a check valve is required to prevent steam from entering the plastic section in the event that the water treatment system runs out of water.

Cold or hot standard tap water can be supplied to the humidifier. A minimum water pressure of 35 psi (2.4 Bar) should be maintained to provide the proper water level within the humidifier. If the water pressure is above 95 psi (6.6 Bar), the valve may not shut off. The humidifier has a factory built-in 1.5" (4 cm) air gap between the water inlet and the overflow. Local codes should be checked to see if the addition of a vacuum-breaking device is required.

Drain Piping

A water seal as shown in the piping illustration should be installed to prevent steam from escaping through the drain line. The water seal should be of sufficient height to overcome the pressure developed in the humidifier (reference water seal height table) and the duct static pressure.

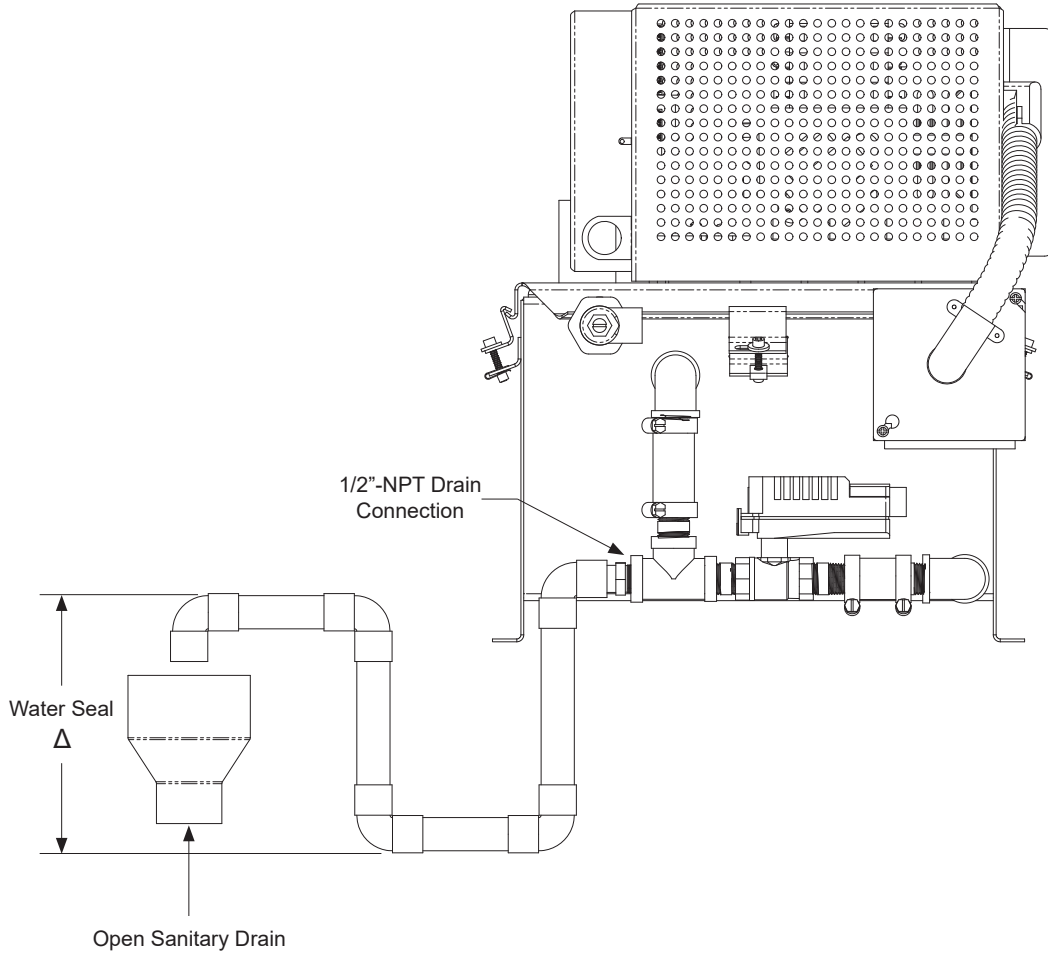
The drain piping should be stainless steel. The use of PVC piping is not recommended; the humidifier temperature will cause the PVC to soften and fail.

If gravity drain is not possible please use a condensate pump rated for 212°F water or contact a PURE Humidifier Co. Representative to purchase one.

Local codes may require tempering of 212°F (100°C) water before entering drain. The PURE Humidifier Co. DCT-927 Drain Tempering Kit will temper water to 140°F (60°C).



Piping Drain Piping

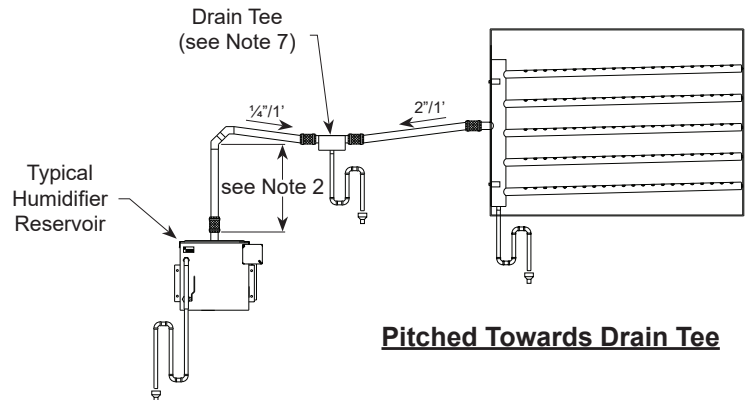
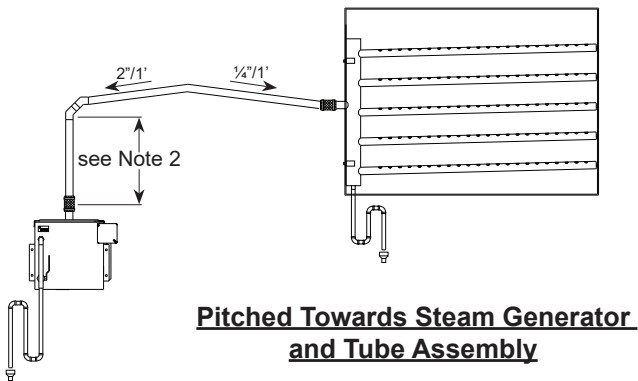
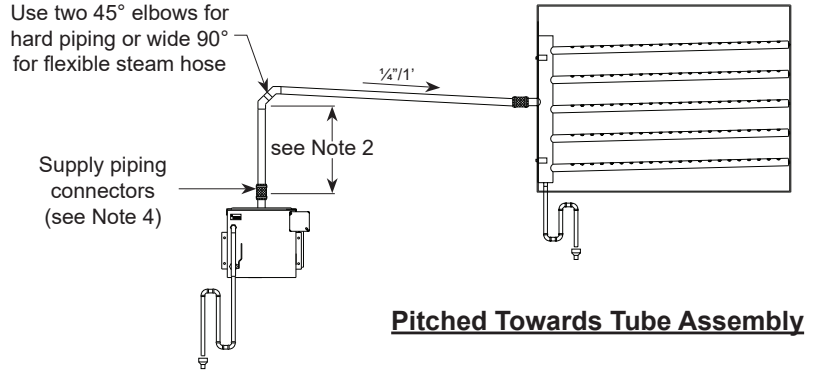
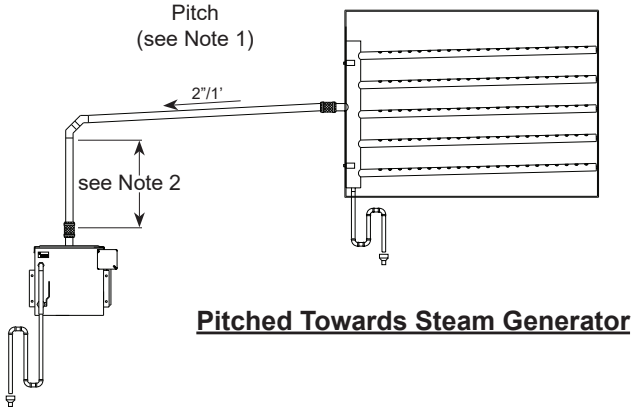


Water Seal Height Δ
2" w.c. + Duct Static Pressure in w.c.

NOTES

1. All drain piping is by others.
2. Drain and overflow connection requires field piping.
3. Do NOT use PVC or other plastic piping that is not rated for 220°F or higher.

Steam Supply Piping Examples



Notes:

1. Pitch hard piping or flexible hose 2" per foot if steam is flowing uphill, 1/4" per foot if the steam is flowing downhill. Reference piping examples shown.
2. When feasible to do so, install a minimum one-foot riser from the top of the tank to reduce condensate carryover.
3. Use flex connectors or unions to allow for easy removal of cover.
4. Support flexible hose every 18" to avoid sagging.
5. Hard piping or flexible hose must match reservoir outlet size. Do not use supply piping with a smaller inside diameter than the reservoir outlet.
6. Failure to follow the piping recommendation on this page may result in blown water seals, leaking cover gasket, or dispersion tubes spitting.
7. Install a Drain Tee at any low spots in supply piping run where condensate will accumulate. **All horizontal to vertical up transitions require a water-sealed drip leg.**
8. Reference job specific tube assembly O&M included with your order for complete details.



Single or Multiple Injection Tube Installation

Single or Multiple Injection Tube Installation

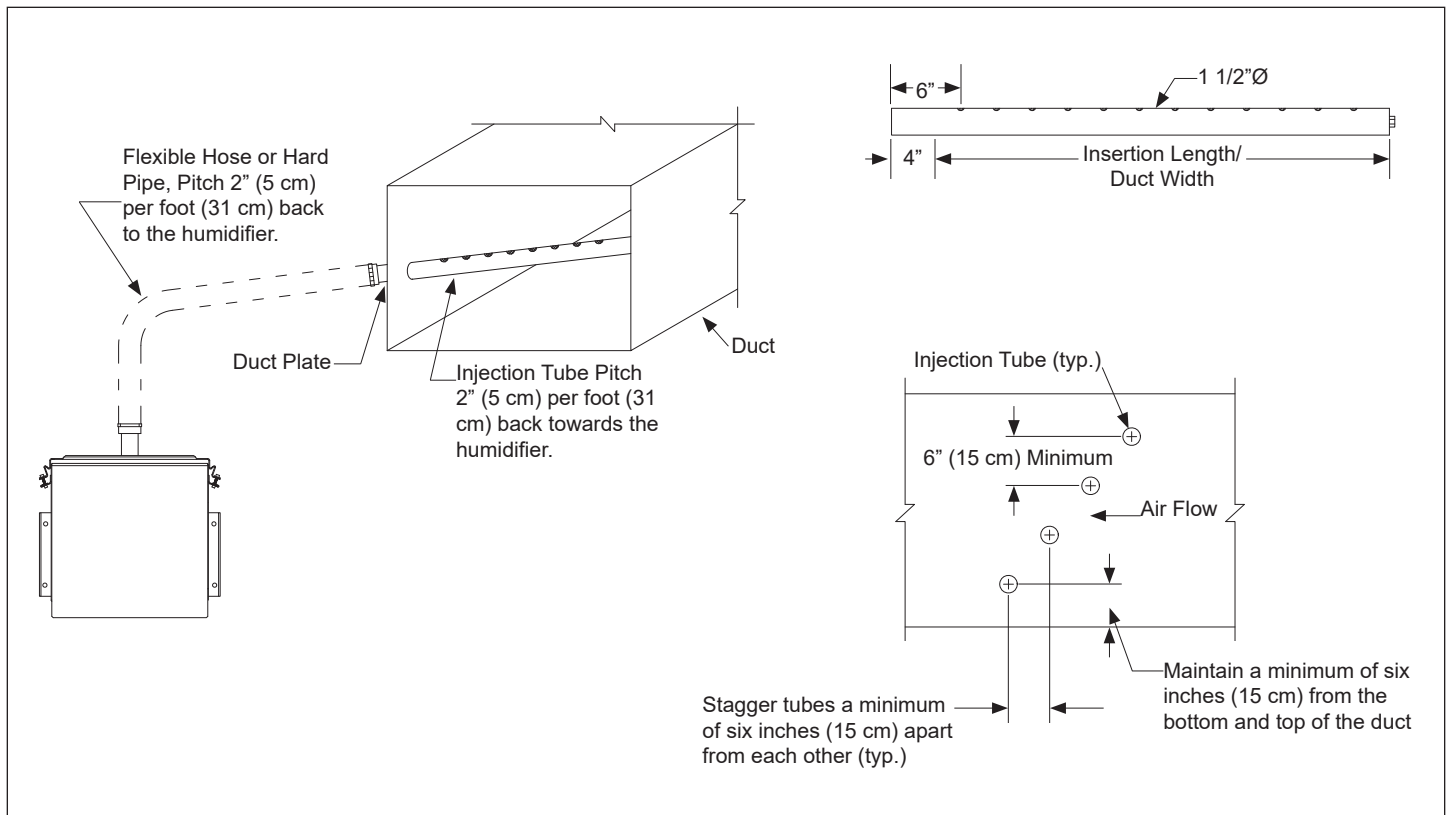
Single injection tubes should be installed in the center of the duct. Multiple injection tubes should have the tubes staggered within the duct as shown in the illustration.

The supply piping and injection tube should be pitched according to the examples on page 13. If the injection tube is mounted lower than the humidifier, a "Drain Tee" will be required (reference "Drain Tee" illustration on page 15).

Install the injection tube with the steam ports injecting steam up. NOTE: If narrow ducts (6" / 15 cm or less, in height) are utilized, install the tube with the steam ports injecting with the air flow at a 45° angle.

Galvanized steel duct plates are provided to seal the opening where the tube enters the duct.

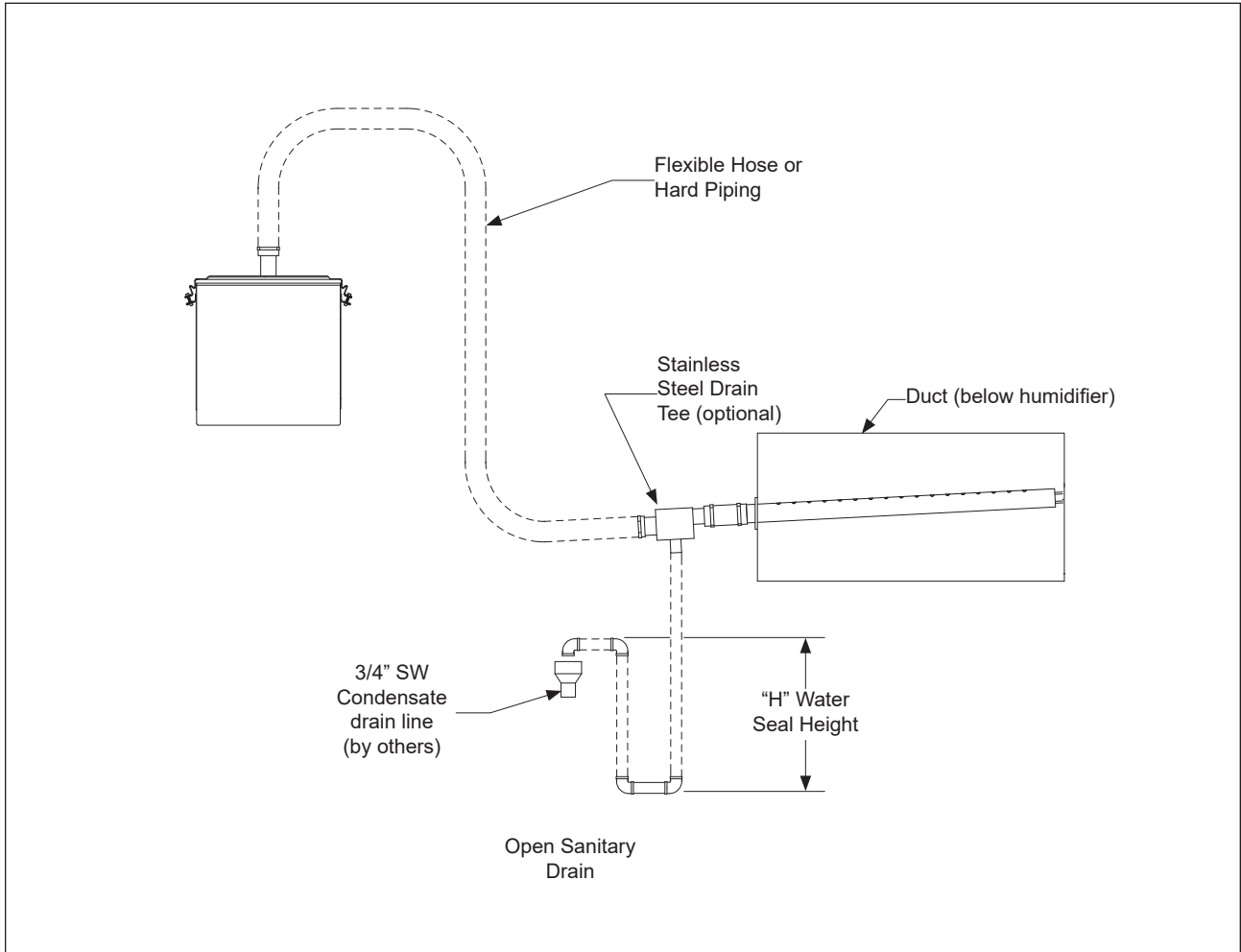
For Fast-Pac or Insty-Pac multiple tube assemblies please reference their O&M for complete installation details.





Single or Multiple Injection Tube Installation

Single or Multiple Injection Tubes with Drain Tee



Water Seal Height Δ
2" w.c. + Duct Static Pressure in w.c.



Steam Supply Piping

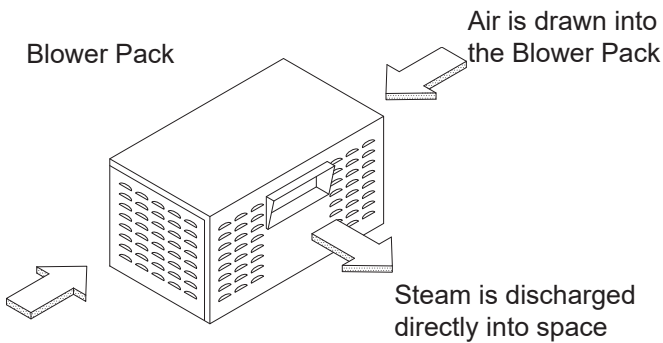
PURE recommends stainless tubing or pipe to match the steam outlet diameter connection on the humidifier cover. Stainless has superior corrosion resistance over copper and is less expensive but slightly harder to install. Stainless tubing is preferable over stainless pipe due to the fact that the tubing is less expensive and reduces heat loss/condensate formation during operation. Stainless pipe may be easier to install compared to stainless tubing because fittings are readily available and it does not require welding. As always, the installer should refer the material required by the project documents and/or the authority having jurisdiction.

Blower Pack

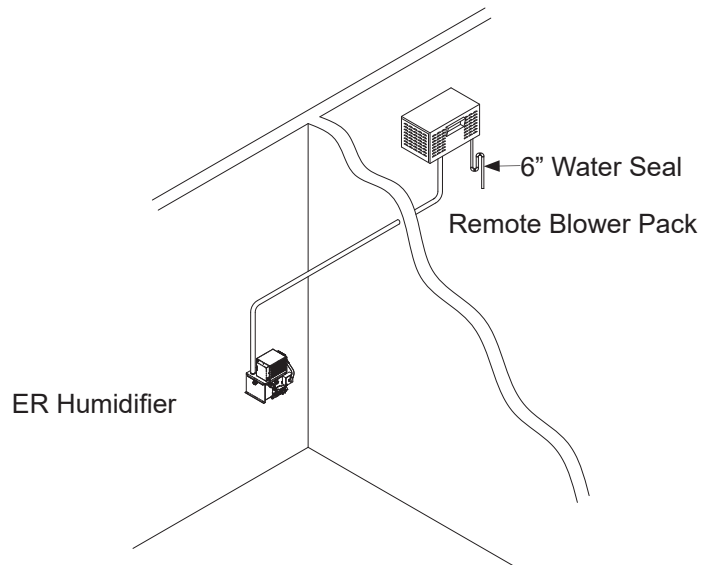
In applications where a ducted air system is not available, PURE offers the optional Blower Pack. The Blower Pack contains a two-speed adjustable blower that moves the air over the steam discharge outlet and disperses the steam directly into the space (see Fig. 1).

Mounting

The Blower Pack may be remote-mounted up to ten feet away from the ER humidifier (see Fig. 2).

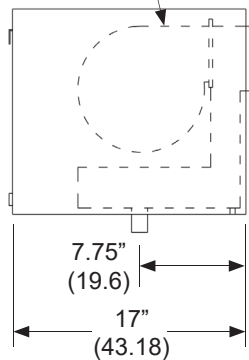


**Blower Pack
Fig. 1**

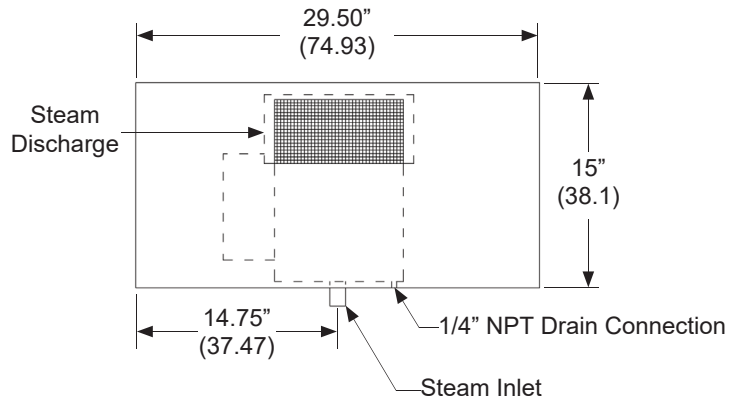


**Remote-Mounted Blower Pack
Fig. 2**

296/435 CFM Fan
120/1/60*, 2.17 amps
1/15 HP



Left Side View



Front View

Optional Blower Pack Dimensions

Blower Pack weight is 60 lbs (27.2 kg)

* Blower requires a separate 120/1 circuit (by others)



Blower Pack

Locating Blower Pack

The distance that visible steam will travel after leaving the Blower Pack is dependent upon the relative humidity in the room and the capacity of the humidifier. If this visible steam comes in contact with any solid object (walls, beams, machinery, etc.) it may form condensate and drip. Refer to Fig. 3 and tables for data on visible steam travel, this will aid you in planning the location of the Blower Pack.

NOTE: Blower Pack steam capacity is 102 lbs/hr max.

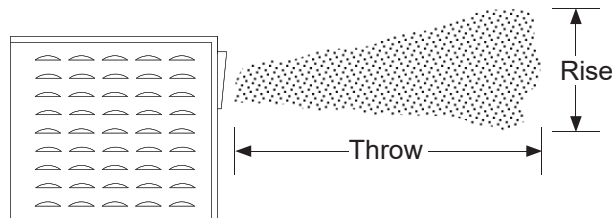
Visible Steam Rise & Throw		Humidifier Model									
		ER-1		ER-3		ER-5		ER-6		ER-7	
Blower Pack Qty. (-)		feet	meters	feet	meters	feet	meters	feet	meters	feet	meters
50% RH	Rise	NOT AVAILABLE				1.0	.30	2.0	.61	2.0	.61
	Throw					8.0	2.4	10.0	3.0	10.0	3.0
60% RH	Rise					2.0	.61	3.0	.91	3.0	.91
	Throw					13.0	4.0	14.0	4.3	14.0	4.3

Throw is the horizontal distance the visible steam travels from the steam discharge.

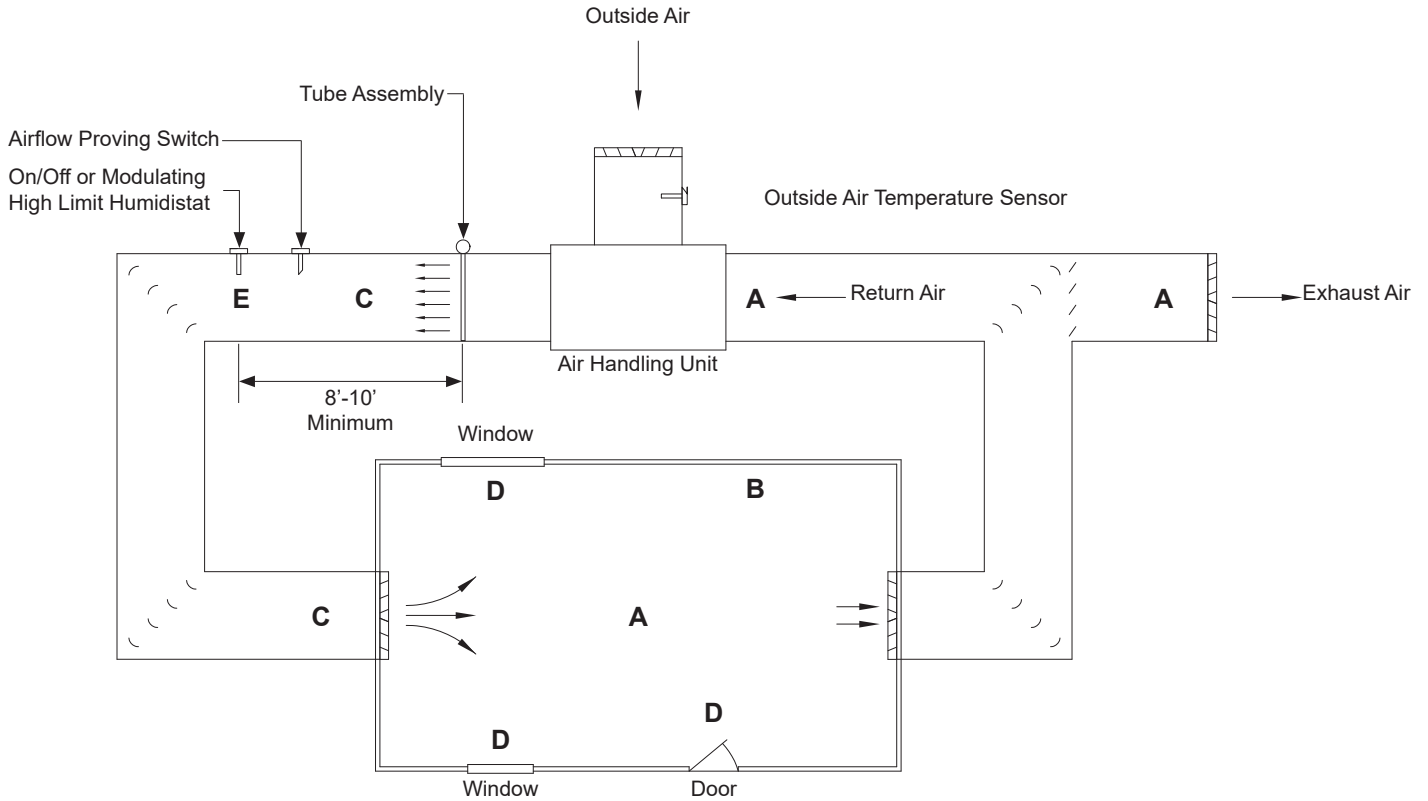
Rise is the vertical distance the visible steam travels from the steam discharge.

Objects in the direct line of the visible steam or objects that are cooler than the ambient temperature may accumulate condensation.

Note: Data above based on 70°F room temperature.



Visible Rise and Throw
Fig. 3



Recommended Humidistat and Sensor Locations

- A. Optimal location for even airflow and a stable temperature
- B. Adequate location
- C. Supply air location is not recommended for controlling humidity sensors
- D. Do not locate humidistats or sensors near doors or windows
- E. Best location for on/off or modulating high limit



ER w/LC23 Pre-Startup Procedure

Pre-Startup Checklist

Before starting the ER PURE Humidifier Co. Electric Humidifier, check the following installation items:

_____ 1. MOUNTING - Verify that the humidifier evaporating chamber is securely supported and that the evaporating chamber is level in both directions. If the humidifier is installed above equipment or not located near a floor drain then a drain pan should be installed below the humidifier steam generator.

_____ 2. INJECTION TUBE - Verify that the humidifier injection tube is mounted within the duct with the proper pitch back to the humidifier (2"/5 cm per foot / 31 cm). NOTE: If the humidifier evaporating chamber or the flexible hose (optional) is mounted higher than the injection tube, a drain "tee" is required to drain the condensate out of the injection tube steam line. If it is an Insty-Pac or Fast-Pac, refer to the respective O&M to determine if they are mounted properly and have the proper p-trap size.

_____ 3. ELECTRICAL - Verify that all wiring connections have been connected in accordance with the wiring diagram. **CAUTION: Live power may exist in the control cabinet. Turn off the main power at the disconnect switch before verifying the electrical connections!**

_____ 4. SAFETY CONTROLS – The supply air duct RH high-limit should be installed at least 10 feet downstream from the humidifier tube(s). Any other control sensors should be at least 10 feet downstream from the humidifier tube(s). Smoke detectors should not be installed downstream of the humidifier tube(s). If a smoke detector absolutely has to be installed downstream from the humidifier tubes then it should be installed as far from the tubes as possible.

_____ 5. PIPING: Water Supply - Verify that all piping connections have been completed as recommended and that water pressure is available to the humidifier. Verify that the supply water pressure is 35-95 psi. There should be at least 5 feet of metal pipe and check valve between the tank and any plastic pipe.

_____ 6. PIPING: Steam Outlet - Refer to Supply Piping Examples page for proper outlet steam piping from the generator to the tube(s). **Any horizontal to vertical up transition in the outlet steam pipe requires a water-sealed drip leg!** Improper outlet steam piping will cause steam to leak from the steam generator. Runs over 20 feet long may require upsizing of the steam pipe.

Signature: _____ Date: _____



ER w/LC23 Startup Procedure

Startup Procedure

_____ 1. Make sure the drain valve is closed.

_____ 2. Turn the controlling humidistat to the lowest setting (no call for humidity).

_____ 3. Turn the electric power "on" to the humidifier. The "Power" LED light on the controller should be illuminated.

_____ 4. Open the water supply on/off isolation valve (by others) and allow the humidifier evaporating chamber to fill to the proper level.

_____ 5. Make sure all the optional safety switches are satisfied (airflow proving switch, high-limit humidistat, etc).

_____ 6. After the humidifier is full of water, the "Heat Ready" LED will illuminate. Turn the humidistat up to call for humidifier demand.

_____ 7. Verify the low water safety circuit by opening the drain valve. As the humidifier tank is draining, the "Heat Ready" and "Heat On" lights should go out when the low water level is reached; this indicates the low water safety circuit is operational.

_____ 8. Close the drain valve and allow the humidifier to fill to the proper level.

_____ 9. Once full, the heater(s) should energize on a call from the humidistat.

_____ 10. Check operation of optional field-installed safety switches (airflow proving switch, high-limit humidistat, etc) to make sure that they turn the power off to the control circuit power. The safety switches should shut off the humidifier heaters whenever one or more of the optional safety switches create an "open circuit".

_____ 11. Check heater amperage draw by testing and recording voltage and amperage in each phase. Readings should match the factory humidifier nameplate.

Amps: _____

_____ 12. Inspect installation for leaks by operating humidifier at a full rolling boil. This may take up to 50 minutes from a cold start. Any leaks should be sealed. Just tightening a pressure clamp will not work if the gasket is not properly positioned between the sealing surfaces. If necessary, remove the cover, reseal gasket and replace the cover.

_____ 13. After the unit is producing steam, check and retighten all hose clamp connections in the system and make sure they are torqued to 35-40 in-lbs.

Signature: _____ Date: _____



Troubleshooting

- Verify humidifier and accessories are installed according to Operation and Maintenance manuals.
- Please read all Operation and Maintenance manuals to familiarize yourself with the equipment.
- A job specific wiring diagram can be located inside the control panel door.

Problem	Possible Cause	Recommended Action
Humidifier will not heat	<p>Blown main heater fuse(s)</p> <p>Control transformer not producing 24 vac control voltage</p> <p>Safety controls open (airflow proving, high limit, etc)</p> <p>Over-temp switch</p> <p>Faulty humidity sensor</p> <p>Faulty immersion heater</p>	<p>Check and replace.</p> <p>Check transformer output. Verify voltage across.</p> <p>Verify that all safety controls are completing the safety circuit.</p> <p>The level control circuit has interference or is damaged. Tri-Probe wires should be run separate from power wiring. Do not reset the switch until the source of the problem is identified and corrected. Consult factory if you are unsure of the source of the problem.</p> <p>Verify voltage to and from humidity sensor.</p> <p>Check and verify heater voltage and amperage. Compare to diagram or nameplate ratings.</p>
Humidifier will not fill	<p>No water pressure</p> <p>Drain valve open</p> <p>No power to the fill valve</p>	<p>Check water supply.</p> <p>Close drain ball valve. If auto drain system is utilized, verify that the drain valve is closed.</p> <p>Check for 24 vac across solenoid valve.</p>
Humidifier does not stop filling or is short cycling	<p>Fill valve stuck open</p> <p>Drain valve open</p> <p>Probes need cleaning</p> <p>Check Tri-Probe wiring</p> <p>Line noise or radio frequency</p>	<p>Check for 24 vac across solenoid valve. If no voltage, check for dirt under valve seat.</p> <p>Close drain ball valve. If auto drain system is utilized, verify that the drain valve is closed.</p> <p>Turn off power. Remove Tri-Probe sensor and clean probe ends.</p> <p>Turn off power. Grey wire to probe #1 (shortest probe) Violet wire to probe #2 (middle probe) Blue wire to probe #3 (longest probe)</p> <p>Shielded Cable may be necessary.</p>



Maintenance & Cleaning Instructions

PURE Humidifier Co. ER w/LC23 Maintenance Instructions

The ER Series Electric Humidifier is designed to provide the best possible operation with minimum maintenance. However, the humidifier should be inspected and placed on a dedicated maintenance schedule to ensure continued operation of the humidifier and its accessories. **PURE Humidifier Co. recommends that the following items be inspected, and/or, cleaned on a minimum basis of twice a year.** If excessive mineral build-up occurs, the maintenance schedule should be increased.

Inspect/Maintenance Item	Procedure to Follow
Water Fill Valve	Check to make sure the fill valve is operating properly. If the valve appears to continually fill, check the valve seat and seal (see troubleshooting instructions).
Safety Interlocks (Airflow, High Limit)	Check to make sure the safety interlocks (air flow, high-limit, etc) will shut down the humidifier.
Immersion Heaters	Verify the correct amperage is being drawn by the heating element. Reference the wiring diagram for correct amperage.
Humidifier Cover/Tank	Inspect for any leaks. Repair as required. Remove the mineral deposits from floor of the humidifier reservoir. If excessive build-up is found, the cover may need to be removed to facilitate complete cleaning of the humidifier.
Tri-Probe	Turn power off before opening control box. Remove Tri-Probe assembly from humidifier (set-screw and o-ring seal) and inspect for excessive mineral build-up. Inspect plastic housing for cracks. Probe ends should be cleaned and the probe assembly re-installed.
Drain Valve & Drain Piping	The drain valve seat and seal should be inspected and cleaned as required. The drain line and water seal should be inspected and cleaned to ensure free flow of the overflow and drain line.
Flexible Hose	Inspect for cracks or leaks. It is normal for the hose to become hard and develop a "set". Replace as needed.

Cleaning Instructions

Hard Make-Up Water

If utilizing hard make-up water, humidifier tanks will likely need to be cleaned manually. This can be done from the side-entry plate or cover. Remove all loose solids from tank and/or exchanger with a wet vacuum or putty knife and bucket. After removal of solids, replace the side-entry plate/cover. At this point you may wish to add a descaling solution. Contact your local representative for our easy to use, non-toxic PURE Clean descaling solution.

Softened Make-Up Water

If utilizing softened make-up water, help eliminate build-up in the tank simply by adding a descaling solution. Contact your local representative for our easy to use, non-toxic PURE Clean descaling solution.

Demineralized Make-Up Water

Normally ER Tanks do not need to be cleaned when fed with high purity water. If fed with low purity water, reservoir cleaning may be needed, Contact your local representative for our easy to use, non-toxic PURE Clean descaling solution.

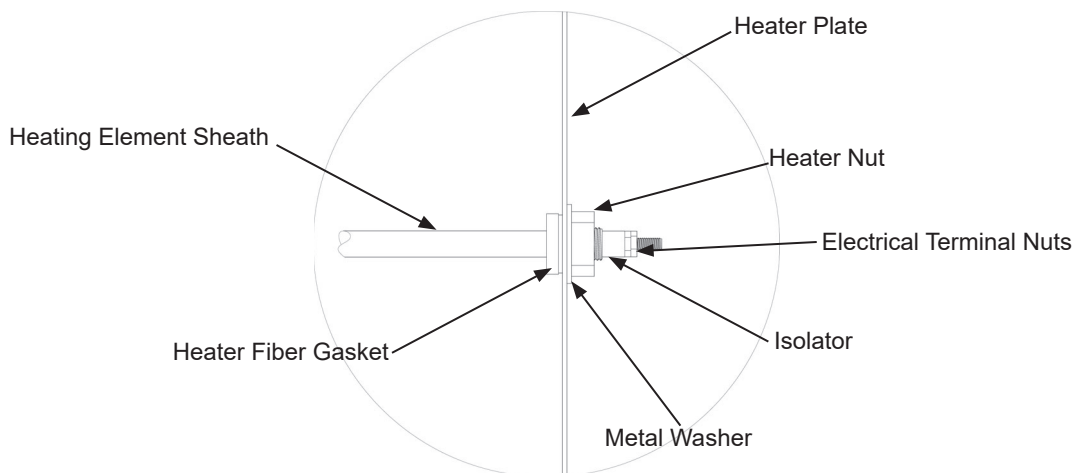
DO NOT use Hydrochloric acid-based descalers; this will corrode stainless steel.

Tool Requirements & Torque List

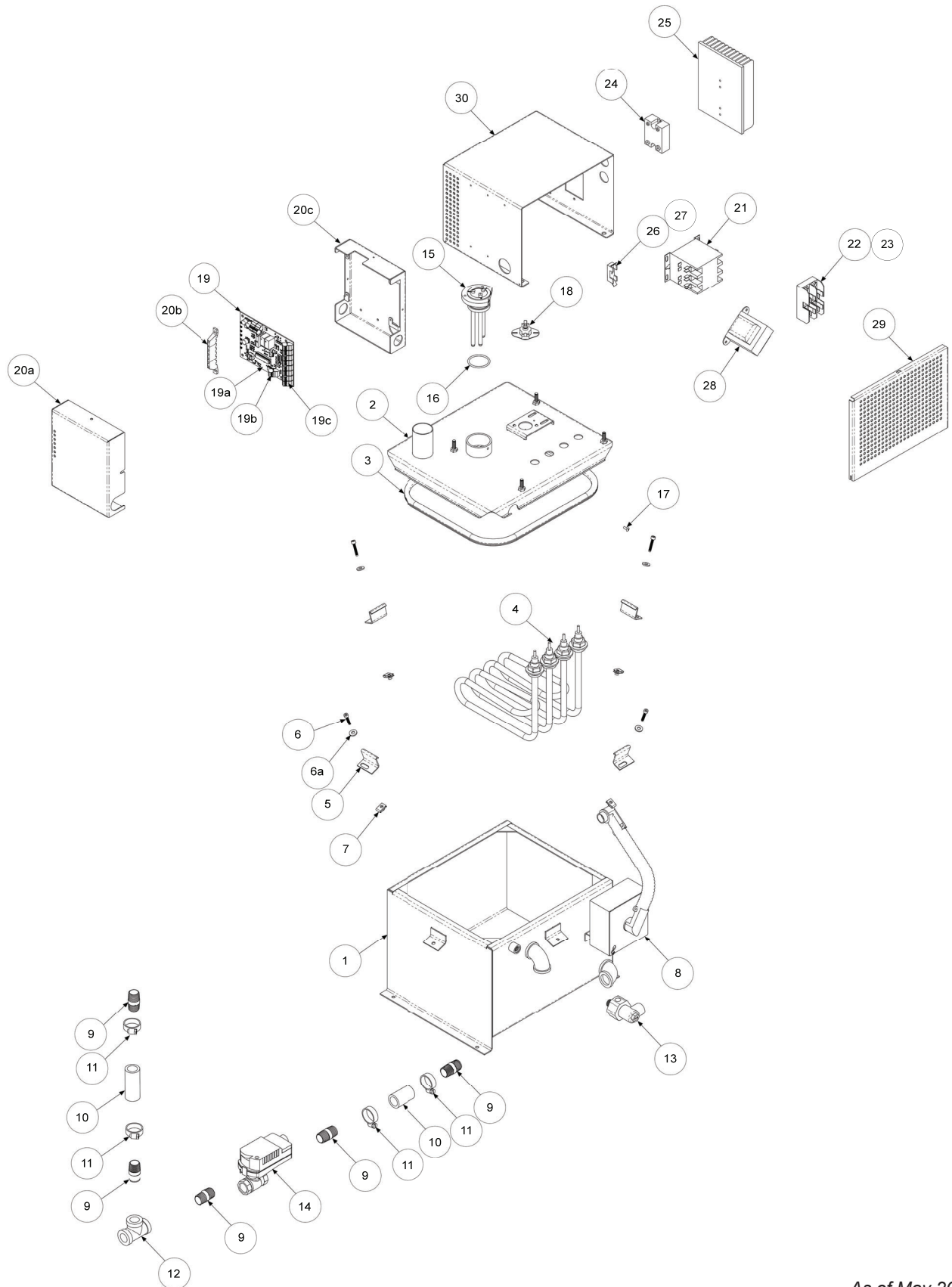
Recommended Maintenance Tool List
7/16" Wrench
3/4" Wrench
Crescent Wrench
11/32" Nut Driver or Socket
3/8" Nut Driver or Socket
5/32" Allen Head
Flat Head Screw Driver
Wire Stripper
Wire Crimper

Torque List	
Cover Bolts	18 inch/pounds MAX
Hose Cuff Screws	35-40 inch/pounds MAX when hot
Heater Nut	18-20 foot/pounds*
Heater Electrical Terminal	35 inch/pounds
* Use a pliers to hold heater sheath from twisting.	

Heater Assembly Sectional Detail



Exploded Parts Drawing





**PURE Humidifier Co. ER w/LC23 Series
Parts List & Two Year Recommended Spare Parts**

Item No.	Description	Part No.	Qty Per Unit	Rec. Spare Qty
1	ER Reservoir Assembly	97043	1	
2	ER Reservoir Cover Assembly	97041	1	
3	Cover Gasket	KT15520ER	1	
4	Immersion Heating Element(s)	A	A	
5	Cover Clamp	15930	4	
6	Cover Clamp Screws	15522	4	
6a	#12 Zinc SAE Washer	15184	4	
7	10-24 U-Nut	15524	4	
8	Electrical Box	15076	1	
9	1/2" NPT Close Nipple	07038	5	
10	3/4" Hose	01118	2	
11	3/4" Hose Clamp	15167	4	
12	1/2" Stainless Steel Tee	07084	1	
13	1/4" Stainless Steel Fill Valve w/Strainer	09128	1	
14	1/2" Belimo Ball Valve	09149	1	
15	ER Tri-Probe Sensor	05347	1	
16	Tri-Probe O-Ring	15166	1	
17	Tri-Probe Set Screw	15525	1	
18	Overtemp Protection Switch	15047	1	
19	LC23	12113	1	
19a	Terminal Block, pluggable - EC350V-02P	12383	1	
19b	Terminal Block, pluggable - EC350V-03P	12384	1	
19c	Terminal Block, pluggable - EC350V-06P	12309	5	
20a	ER LC23 Cover	97053	1	
20b	ER LC23 Light Pipes	97054	1	
20c	ER LC23 Mounting Base	97055	1	
21	Heater Contactor	12017	1	
22	Primary Fuse Holder	A	A	
23	Primary Fuse	A	A	
24	SCR Relay	12354	1	
25	SCR Heat Sink	99257	1	
26	Secondary Fuse Holder	12085	1	
27	Secondary Fuse	12063	1	
28	Step-Down Transformer	A	1	
29	Control Box Side	97034	1	
30	Control Box	97035	1	

NOTES/CODES:

A = Part Number and/or quantity vary with model number.

When ordering replacement or spare parts, please have the following information available:

Model Number, Primary Voltage, Serial Number, No. of Heaters & Heater KW and any options (i.e. automatic drain, modulating control, insulation, etc.)

Some parts shown may not be required for your unit.



The PURE Humidifier Co. Warranty

PURE Humidifier Co. guarantees its products to be free from defects in material and workmanship for a period of one year from the date of shipment; provided the product is properly installed, serviced, and put into the service for which it was intended.

Chloride stress corrosion cracking (CSCC) and chloride pitting of stainless steel components is not covered by warranty.

PURE Humidifier Co. is obligated under the terms of this warranty to the repair or replacement of the defective part(s), excluding any labor charges, or to refund the purchase price at our option. PURE Humidifier Co. assumes no obligation for incidental or consequential damages. The above provisions are in lieu of all other guarantees, obligations, liabilities or warranties, expressed or implied.

DISCLAIMER

Product Changes: Changes in products may be required from time to time due to the need for continuing improvement of products and due to factors beyond PURE Humidifier Co.'s control. PURE Humidifier Co. reserves the right to make reasonable changes in products, specifications and performance of any kind without notice or liability. PURE Humidifier Co. also reserves the right to deliver revised designs or models of products against any order, unless this right is specifically waived in writing by PURE Humidifier Co. PURE Humidifier Co. shall have no responsibility whatsoever with respect to changes made by the manufacturer in products sold but not manufactured by PURE Humidifier Co.



141 N Jonathan Boulevard
Chaska, MN 55318
Tel: (952) 368-9335
www.purehumidifier.com