

### Limited Warranty

This product comes with a two (2) year limited warranty on parts. The warranty provides that a replacement will be furnished for any part of the product that fails in normal use and service during the applicable warranty period specified, in accordance with the warranty's terms. The replacement part is warranted for only the unexpired portion of the original warranty.

**All parts are warranted for a period of TWO (2) YEARS after the effective date.** The effective date is the date of installation if properly documented. Otherwise, it is the date of manufacture plus twenty four (24) months.

#### STANDARD PROVISIONS AND CONDITIONS

The following terms are common to all of PROSTOCK'S individual product warranties.

**THIS WARRANTY WILL NOT APPLY:** a) to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with the manufacturer's printed instructions; b) to damage from abuse, accident, fire, flood, and the like; c) to parts used in connection with normal maintenance, such as cleaning or replacing air filters; d) to units that are not installed in the United States of America or Canada; e) to units that are not installed in accordance with applicable local codes, ordinances and good trade practices; or f) to defects or damage caused by the use of any attachment, accessory or component not authorized by PROSTOCK.

**SHIPPING COSTS:** You will be responsible for the cost of shipping warranty replacement parts from our factory to our PROSTOCK distributor and from the distributor to the location of your product. You also are responsible for any shipping cost of returning the failed part to the distributor. (If in Alaska, Hawaii, or Canada, you also must pay the shipping cost of returning the failed part to the port of entry into the continental U.S.)

**SERVICE LABOR RESPONSIBILITY:** This Warranty does not cover any labor expenses for service, nor for removing or reinstalling parts. All such expenses are your responsibility, unless a service labor agreement exists between you and your contractor.

**HOW TO OBTAIN WARRANTY PERFORMANCE:** You must promptly report any failure covered by this warranty to the installing contractor or distributor. Normally, the installing contractor from whom the unit was purchased will be able to take the necessary corrective action by obtaining through his PROSTOCK distributor any replacement parts. If the contractor is not available, simply contact any other local contractor handling PROSTOCK products.

The name and location of a local contractor can usually be found in your telephone directory or by contacting a PROSTOCK distributor. If necessary, the following PROSTOCK office can advise you of the nearest PROSTOCK distributor:

P.O. Box 17010 • Fort Smith, Arkansas 72917-7010 • (479) 648-4786 • (For CA only: (866) 251-4090)

**HOWEVER, ANY REPLACEMENTS ARE MADE SUBJECT TO VALIDATION BY PROSTOCK OF IN-WARRANTY COVERAGE.**

An item to be replaced must be made available in exchange for the replacement.

**MISCELLANEOUS:** No one is authorized to make any warranties on behalf of PROSTOCK. ANY IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIODS SPECIFIED ABOVE, PROSTOCK SOLE LIABILITY WITH RESPECT TO DEFECTIVE PARTS SHALL BE AS SET FORTH IN THIS WARRANTY, AND ANY CLAIMS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARE EXPRESSLY EXCLUDED. Some states do not allow limitations on how long an implied warranty lasts, or for the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This Warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

# PROSTOCK<sup>SM</sup>

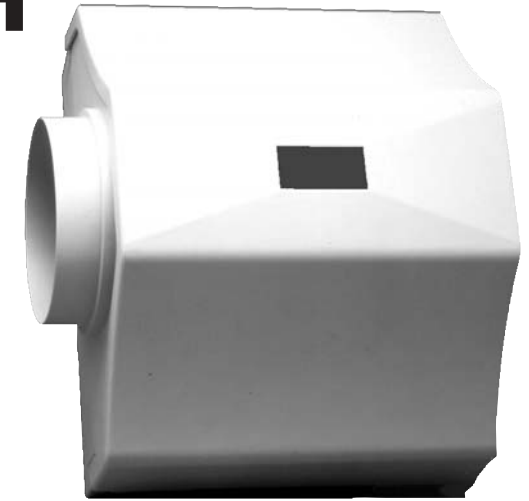
P.O. Box 17010 • 3900 South Zero Street • Fort Smith, Arkansas 72917-7010  
Phone: (479) 648-4786 (For CA only: (866) 251-4090)

# PROTECH<sup>TM</sup>

## Duct Mount Bypass Humidifier

84-25054-02

84-25054-05



**Installation • Operation • Maintenance**

#### CAUTION:

**READ INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS CAREFULLY FOR SAFE OPERATION.**

**EXERCISE EXTREME CAUTION WHEN WORKING WITH ELECTRICITY.**



### Description of Parts

#### Solenoid Valve

All brass construction, controls the flow of water to the humidifier. The solenoid valve will make a clicking sound as the plunger pin opens and closes. If this part fails to operate correctly, water will flow continuously through the humidifier and down the drain.

#### Conical Mesh Filter

Traps small particles in water supply that can clog and damage the solenoid valve. Must be cleaned or replaced when water flow is impeded or humidification is reduced.

#### Evaporator Pad

Allows water to evaporate as warm, dry air is drawn through it. Must be replaced on a regular basis to maintain efficiency.

#### Fluid Restrictor

Located within the water tubing of the humidifier, it controls the amount of water that flows through the humidifier.

#### Side Panels

Plastic construction and right or left hand discharge allows the unit to be installed in a variety of installations. 1" wide collar allows for more secure installation of bypass duct.

#### Water Distribution Tray

Felt wicking allows even distribution of water across surface of evaporator pad. As mineral deposits build up, the tray will effectively channel the water through the evaporator pad. Holes in tray must be cleaned periodically.

### Introduction

The benefits of a properly humidified environment (35-50%, Relative Humidity) are many. They include both personal comfort as well as the preservation of furniture, draperies, carpets, wooden floors and cabinets, paintings, pianos, etc.. Your home will be more comfortable at a lower temperature (i.e.: 68° F) at 30-40% Relative Humidity (RH) than at 71° to 72° F without controlled humidity. Since every degree of temperature setback represents about 3% of your heating costs, this can possibly represent a significant annual savings.

During the heating season, cold air is brought into the home and heated. When heated, this air dries out and greatly increases its capacity to hold more moisture. By using a humidifier, a source of water is provided to satisfy this increased moisture holding capability, rather than having it drawn from our body surface and the surrounding hygroscopic furnishings in the home.

## Specifications

To improve the efficiency of your humidifier, and to reduce the possibility of a health hazard, it is recommended that you take the following precautions:

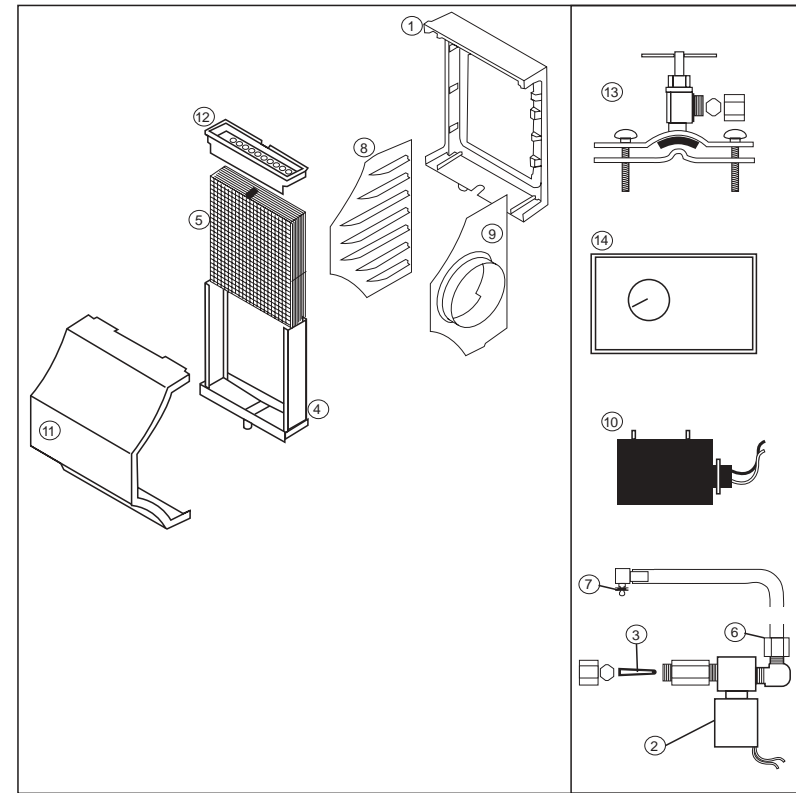
- Follow the manufacturer's recommended cleaning and maintenance instructions.
- The amount of minerals and other impurities in a water source can vary greatly, therefore the frequency of cleaning the humidifier also varies.
- During the heating season, check for film or scale build up on the humidifier, evaporator pad, and all moving parts on a monthly basis and establish a proper cleaning schedule.
- Do not allow film or scale to build up on the unit, evaporator pad, or any moving part which will reduce the efficiency of the humidifier.
- An algacide, such as a humidifier cleaning tablet or bacteriostatic liquid/powder, can be used to combat algae build-up, should it become evident.
- At the end of the winter humidification season, drain and thoroughly clean your humidifier as part of the summer shut down. **Be sure to install a new evaporator pad at the beginning of the heating season before starting the humidifier.**

Like your heating system and air conditioning unit, periodic maintenance and cleaning are required to ensure the safe and efficient operation of your humidifier.

### Specifications

Model	84-25054-02		84-25054-05	
Type of Unit	Flow thru Bypass		Flow thru Bypass	
Duct mounting	Return	Supply	Return	Supply
GPD @ 140°	16.1	18.7	20.0	23.3
GPD @ 120°	12.4	14.4	15.4	18.0
GPD @ 100°	8.2	9.5	11.0	12.8
Input voltage required	24VAC		24VAC	
Unit W x D x H	11 1/2" x 9 1/2" x 16 1/2"		11 1/2" x 9 1/2" x 19 1/2"	
Duct Opening W x H	8 5/8" x 10 3/4"		8 5/8" x 13 3/4"	
Shipping Weight	8.1 lbs		8.4 lbs	
Standard Equipment	Wall/Duct Mount Humidistat Self Piercing Saddle Valve 24V transformer			
Features	Right or left hand discharge Mounts on 14" minimum wide duct Bypass: Flexible or hard round duct Single captive screw secures the cover All brass solenoid valve assembly Attractive design & finish, neutral beige color 2" deep evaporator pad for greater surface area Cleanable & replaceable internal water filter protects the solenoid valve			

## Unit Diagram



84-25054-02

84-25054-05

	Part description	Part no.	Vendor no.	Part no.	Vendor no.
1	Base	89-25055-91	454278-002	89-25055-92	354410-002
2	Brass solenoid assembly 24VAC	61-25055-08	G-109	61-25055-08	G-109
3	Conical mesh filter (12 pack )	54-25055-11	G-125-12	54-25055-11	G-125-12
4	Drain tray assembly	89-25055-12	353226-002	89-25055-93	353226-001
5	Evaporator pad (6 pack)	89-25055-02	G-206-6	89-25055-94	G-116-6
6	Fluid restrictors (12 pack )	45-25055-16	G-217-12	89-25055-95	G-128-12
7	Grommet	89-25055-96	G-123	89-25055-96	G-123
8	Side panel	89-25055-23	454281-002	89-25055-23	454281-002
9	Side panel with collar	89-25055-24	454280-002	89-25055-24	454280-002
10	Transformer	46-25055-28	G-139	46-25055-28	G-139
11	Unit cover	89-25055-25	454279-002	89-25055-97	354411-002
12	Water distribution tray	89-25055-22	G-105	89-25055-25	G-105
13	Saddle valve assembly	61-25055-98	IN-2ST	61-25055-98	IN-2ST
14	Humidistat	45-25055-99	352680-008	45-25055-99	352680-008

## Troubleshooting Guide

Symptom	Possible causes	Corrective Action
Humidity level is not being maintained	Evaporator pad is clogged with mineral deposits	Replace the evaporator pad
	Water line is clogged with mineral deposits or debris	Clean or replace conical mesh filter and fluid restrictor
	Humidistat setting is too low	Increase the humidity setting on the humidistat
	Saddle Valve is not fully open	Turn the saddle valve handle in a counterclockwise direction until it stops
	Evaporator pad is upside down	Make sure the evaporator pad is installed with the black mark up
Humidifier will not turn on	Home is not tightly insulated	Seal leaks or drafts around doors and windows Increase the humidistat setting (this will only help, not solve the problem)
	Humidistat level is too low	Increase the humidity setting on the humidistat
Water flows through the humidifier constantly	Solenoid valve is clogged or broken	Contact a dealer for service or replacement
	Solenoid valve is stuck in the open position	Clean the solenoid valve Contact dealer for service or replacement
Rust is developing around the humidifier	Air pressure velocity through the evaporator pad is too high	Contact dealer for possible solutions
	Leak in the water fill tube located in the base	Check the fill line for leaks Contact dealer for service or replacement

## Air Tightness of Home

Sq. Footage of Home	Tight Home (GPD)	Average Home (GPD)	Loose Home (GPD)
1000	0.5	5.0	10.0
1500	3.0	10.0	16.5
2000	5.0	14.0	24.0
2500	7.5	19.0	30.5
3000	10.0	23.5	37.5
4000	14.5	33.0	51.5

The above calculations are for reference only and are based on the following:

- Inside temperature 70° F/35% Relative Humidity
- Outside Temp 20° F /70% Relative Humidity
- 8 foot ceiling height
- Internal moisture gain of one pound per hour
- Furnace on-time of 70%

This chart uses A.R.I. standard designations:

A "Tight Home" is assumed to be well insulated with vapor barriers, tight storm windows and doors, and a dampered fireplace. Air exchange rate of .5 changes per hour.

An "Average Home" is insulated and has a dampered fire place, but there are no vapor barriers, storm doors, or storm windows. Air exchange rate of 1.0 change per hour.

A "Loose Home" is generally one constructed before 1930, has little or no insulation, no storm doors, storm windows, weather stripping or vapor barriers, and often no effective dampering of fireplaces. Air exchange rate is as high as 1.5 changes per hour.

## Operation

This humidifier operates using the evaporative principle in a quiet, efficient and automatic manner. It is constructed of the highest quality, engineering grade materials to assure superior performance and durability. This humidifier is controlled so that it operates only when the furnace blower is operating and the humidistat, which is installed on the cold air return duct or in your living area, calls for humidity.

When there is a call for humidity, water flows into the distribution tray and trickles down through the evaporator pad. Warm, dry air is drawn through the evaporator pad, where it absorbs moisture and is returned to the duct, and is circulated throughout the house. There is no standing water in this humidifier, thus reducing maintenance and handling. The drain, located at the bottom of the unit, allows unused water to flush from the humidifier. The drain water carries away mineral deposits that have been left behind after the evaporation process. A fluid restrictor located in the evaporator pad supply tubing controls the amount of water flowing through the humidifier.

**Do NOT attempt to control the flow of water by using the saddle valve. It is designed to be either fully open or closed.**

A pad in the distribution tray distributes water evenly between the openings. The distribution tray should be inspected annually and any plugged holes cleaned (more frequently in areas of poor water quality).

## Start Up

1. Open the saddle valve and check for leaks at the connections.
2. Open the bypass damper if installed
3. Turn the furnace on and check for proper operation.
4. Turn the humidistat to the highest level (past 60%) and the humidifier should begin to operate (the humidifier should stop when the humidistat is turned off, or when the furnace blower shuts off).
5. Set the furnace controls and humidistat for the desired conditions. 30-40% Relative Humidity is typically recommended, but it is important to reduce the setting whenever extreme low outdoor temperatures occur in order to avoid excessive condensation. The settings noted in the relative humidity table represent the best compromise for both comfort and protection of home furnishings. Condensation of water on the inside windows is usually an indication of too high relative humidity.

Recommended Relative Humidity Levels vs. Temperature	
Outside Temperature (°F)	Recommended Relative Humidity %
40	45
30	40
20	35
10	30
0	25

## Common Questions & Answers

### Q. My humidity is too low. Why isn't the humidifier working?

A. This is one of the most common questions from homeowners with new humidifiers. There are many factors that decide how well a home will be humidified. The primary factors are the size of the home and how well it is insulated (assuming the humidifier is installed properly). The issue could range from something as simple as the humidistat setting not being set high enough to a complex situation involving the home environment and material construction. New cabinets, wood floors and furniture have the tendency to absorb moisture quickly. These wood materials will continue to absorb moisture until their saturation point is reached. In addition, doors that open and close often will allow the internal humidity to escape into the outdoors. The size of crawlspaces, such as attics and dead spaces in construction will also affect how well the living space is humidified. If you have concerns or questions about the operation of the humidifier, consult your dealer for an on-site inspection and analysis.

### Q. The humidifier is running all the time. Is this normal?

A. The humidistat may be broken or your home may have a high transfer of air. Drafts and leaky construction will allow the humidity to expand to fill whatever space it is in. If your home is not sealed tightly, the humidity will escape into the outside air, wasting your electricity and water. Another cause could be an improper electrical installation. The humidifier is designed to be used in conjunction with the furnace blower.

### Q. Water is constantly flowing out the humidifier drain and I am afraid that it is wasting water. Should I be concerned?

A. Flow-thru humidifiers are designed to use the action of flowing water to continuously flush minerals and debris from the evaporator pad when the HVAC system is running and there is a demand for additional humidity, thus increasing their useful life expectancy and resulting in fewer maintenance needs. However, if the water usage is constant and does not appear to cycle with the HVAC system turning ON and OFF, servicing may be necessary.

### Q. Where do I get the parts that must be replaced on a regular basis?

A. Your dealer can help supply you with the parts you need.

### Q. I do not need my humidifier on all year round. What do I do during the summer months?

A. First, turn the saddle valve to the OFF position. In some installations, a damper will be installed on the ductwork that will allow you to shut off the air from the regular HVAC system. This damper will keep cooler air from flowing into the humidifier and wasting electricity.

### Q. How do I control the humidifier and the level of humidity in my home?

A. The humidistat is the only way the humidifier understands how much humidity is in the air. A nylon element in the humidistat expands and contracts as the humidity level changes and this movement signals the unit to turn ON and OFF.

**To Inspect and Replace the Evaporator Pad:**

It is recommended that the evaporator pad in the humidifier be replaced annually to maintain efficient operation. However, more frequent replacement may be necessary in areas of poor water quality.

1. Disconnect the power supply to the furnace. Turn OFF the water supply at the saddle valve by turning the valve handle clockwise.
2. Fully loosen the thumb screw at the bottom of the unit cover. The screw will remain attached to the cover. To remove the cover from the duct, pull the bottom away and then lift up. Put the cover aside for reassembly.
3. Remove the water distribution tray, located above the evaporator pad. It is held in place by a snap that must be lifted to pull out the tray.
4. Pull the evaporator pad and frame assembly away from the duct, being careful not to disturb the drain connection. Remove the old evaporator pad and discard.
5. Inspect the interior of the humidifier and remove any mineral deposits and accumulation from the frame assembly and drain tray.
6. Remove the new evaporator pad from the plastic bag and insert into the frame assembly, **with the black spot facing up**. Ensure that no part of the evaporator pad is outside of the frame. Return the evaporator pad and frame assembly to their original position inside the humidifier.
7. Check the distribution tray to ensure that holes are clear of any scale build up. If desired, the distribution tray can be washed with mild detergent and warm water.
8. Replace the distribution tray making sure the snap is hooked over the outside edge of the tray. Replace the cover and secure by tightening the thumb screw. Turn the water back on and reconnect power to the furnace.

**End of Heating Season Shut Down:**

1. Inspect and clean humidifier and components.
2. Turn water supply off at the solenoid valve.
3. Turn humidistat off.
4. Close the bypass damper if installed.

**See installation instructions on the provided mounting template**

Read the instructions in the furnace installation manual carefully before attempting installation or operation of the humidifier. Failure to follow these instructions may result in improper installation and therefore, void the manufacturer's warranty.

**WARNING**

**Improper electrical wiring can cause personal injury, death, or property damage. Local codes require that the unit be installed by a properly qualified HVAC technician or electrician.**

Some furnaces provide 120VAC auxiliary terminals that may be used to power the humidifier. Since these auxiliary terminals are interlocked with the fan, no separate fan interlock relay is required in the humidistat circuit depending on the furnace model. These terminals are marked HTG.Acc/Neutrals. Acc/Neutral or Hum-H/Hum-N.

When connected to these furnaces using 120VAC auxiliary terminals interlocked to the furnace fan, connect the primary of the supplied 120/24VAC transformer to the auxiliary terminals on the furnace. Connect the secondary of the transformer to the unit pigtails and SPST humidistat provided. The humidifier will then turn on whenever the furnace fan is running and there is a call for humidity.

For systems without 120VAC or 24VAC auxiliary terminals, systems with multi-speed blowers or non-120VAC systems, the switch contacts of a separate SPST-NO fan interlock relay is required to be wired in series with the humidistat switch. Depending on the installation and furnace manufacturer the coil for this relay could be:

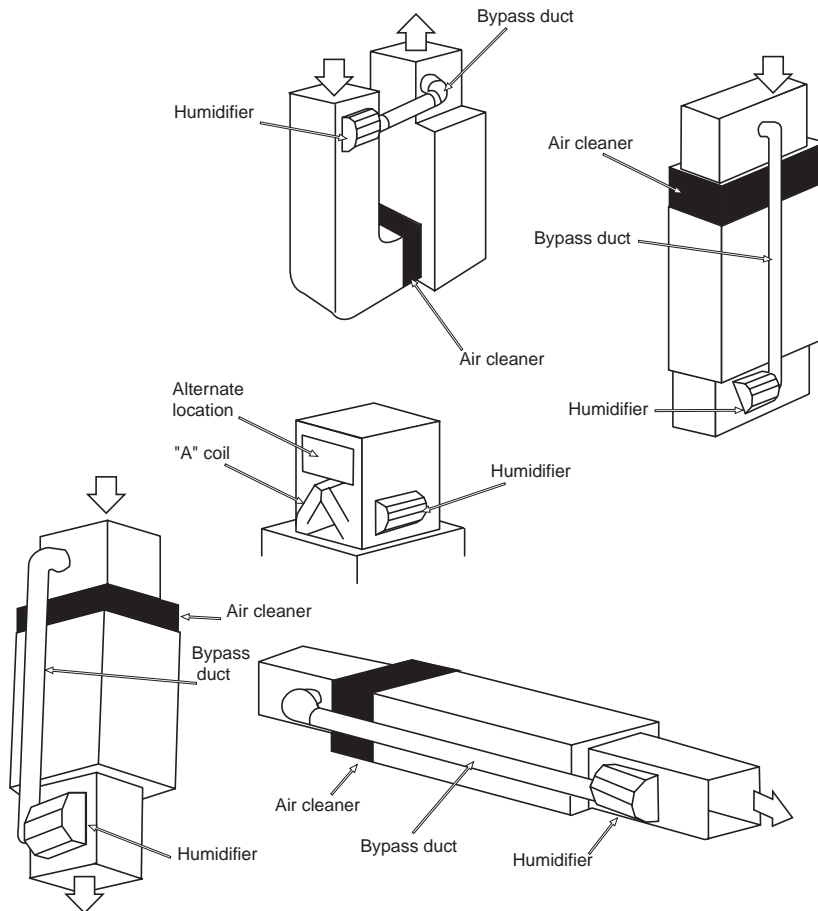
- Wired in parallel with the coil of the NO fan relay, typically 24VAC.
- Wired in parallel with the common and heating speed tap of the units blower typically 120VAC or 240VAC.
- An inductively coupled current sensing relay on the common of the units blower.

## Mounting Locations

1. This humidifier may be installed on either the supply or return plenum.

The supply plenum is the preferred location because of higher evaporative capacity results. When there is insufficient space on the warm air plenum, the unit can be installed on the return duct. It is recommended that when the unit is installed in this location it is supplied with hot water service.

2. If the furnace has an air conditioning coil, be sure the unit does not interfere with coil ends.
3. Remember to provide clearance for evaporator pad removal, conical mesh filter cleaning, and fluid restrictor cleaning.



## Maintenance

### Maintenance of Your Humidifier

Your humidifier, as all appliances, requires periodic cleaning and maintenance to ensure efficient and safe operation. The necessity to clean your humidifier is substantially the result of impurities coming in through your water supply, which feeds the humidifier. Other household dust, containing biological and microbial contaminants, finds its way into the air handling system and ultimately, the humidifier. The humidifier is not the source of these impurities.

To enjoy the benefits of a properly humidified environment, periodic cleaning is necessary to control both water and household impurities. Film or scum, which can contain bacteria or fungi, may appear on the water surface, the sides, or bottom of your humidifier. A crusty deposit or scale may also appear and is composed of minerals that have settled out of the water.

Annual cleaning is required for the efficient and safe operation of this humidifier. However, more frequent maintenance and cleaning may be required in areas of poor water quality. During the first heating season, check for scale buildup on a monthly basis and establish the proper cleaning schedule. Failure to do so can result in reduced efficiency and/or water damage to house and property. If frequent cleaning of the humidifier is required, a sediment filter should be installed upstream of the conical mesh filter to reduce the frequency of cleaning. Water softeners can be used to improve the quality of the supply water, however, deionized water is corrosive and can reduce the operating life of your unit.

### To Inspect and Clean the Conical Mesh Water Filter

1. Turn OFF the water supply at the saddle valve by turning the valve handle clockwise.
2. Disconnect the water line from the INLET fitting of the solenoid valve using two (2) wrenches, one for the compression nut and one on the INLET fitting.
3. Remove the conical mesh filter from inside the inlet fitting using a small nail or paper clip.

**NOTE: Be careful not to puncture the filter.**

4. Clean or replace the filter as needed.
5. Replace the filter and reconnect the water line to the INLET fitting reversing the directions in Step 2.
6. Turn the water back ON at the saddle valve.

### To Inspect and Clean the Fluid Restrictor

1. Turn OFF the water supply at the saddle valve by turning the valve handle clockwise.
2. Disconnect the water line from the OUTLET fitting of the solenoid valve using two (2) wrenches, one for the compression nut and one on the OUTLET fitting.
3. Locate the fluid restrictor, inside the end of the water line, and inspect it for sediment clogging and accumulation. Clean or replace fluid restrictor as needed.

**NOTE: Do NOT attempt to enlarge the hole size in the restrictor.**

4. Reconnect the water line to the OUTLET fitting reversing the directions in Step 2.
5. Turn the water back ON at the saddle valve.