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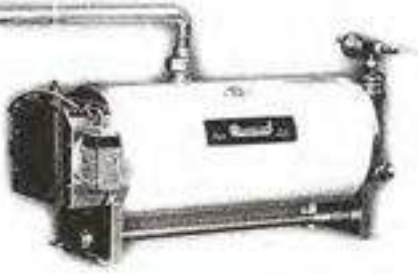

Model HFL Humidifier
(Remote Duct Mounted)

Electric Steam Humidifiers

ALLADIN-AIR

Alladin-Air Manufacturing Ltd., Calgary, Alberta, Canada

1. General

Model HFL and HFL-2E are C.S.A. approved for use in Canada. The installation must conform with local Plumbing and Electrical codes. Only qualified, licensed or trained personnel should install the appliance.

1.1 Rating Plate

The rating plate is attached to the unit's junction box.

2. Unit Location

2.1 Install unit in a dry accessible location while avoiding excessive steam discharge pipe length (less than 20').

2.2 Be sure unit is level.

2.3 Do not install unit closer than 1" to combustible materials or in a confined space less than 4 cubic feet.

2.4 Clothing or other flammable material should not be placed on or near the appliance.

2.5 Elevating the unit will facilitate use of the units drain system.

3. Installation

3.1 Supply Water

3.1.1 All plumbing must conform to local codes or in the absence of local codes, with the current Canadian Plumbing Code.

3.1.2 Use non-ferrous fill line components only (1/4" O.D. compression).

3.1.3 A supply water shut off valve and strainer is highly recommended.

3.1.4 Use cold unsoftened supply water unless drain system is used (manual or automatic).

3.1.5 If drain system is used hot or cold soft water is suitable.

3.1.6 A pressure regulator is required when supply water pressure exceeds 100 psig. This regulator must be preset to 50 psig.

3.1.7 Flush new supply lines of any debris before connecting to appliance.

3.2 Drain Pipe

3.2.1 The appliance is equipped with gravity drain (manual or automatic).

3.2.2 The unit may be elevated and drained into an existing drain or pale.

3.2.3 ***Caution*** if unit has just operated, drain water will be ***Extremely Hot***. Allow 1 - 2 hours for unit to cool when draining manually.

3.2.4 If piping to an existing drain, a union should be included for removal and reinstallation of the humidifier.

3.2.5 If automatic flush system is used with digital controller a 1 hour delay should be programmed in to allow unit to cool.

3.2.6 Whenever possible the motorized drain valve should be installed in vertical drain pipe.

4. Steam Discharge Pipe and Steam Manifold Installation

4.1 Steam Discharge Pipe

4.1.1 For units rated 1-5 kilowatts, unit discharge size is 1/2" copper and 3/4" copper for units rated 6-10 kilowatts.

4.1.2 Avoid excessive steam discharge pipe length (less than 20').

4.1.3 Piping runs greater than 10' or exposed to accidental contact, should be insulated.

4.1.4 Do not install shut off valve in discharge pipe.

4.1.5 Do not route pipe to create a trap.

4.1.6 For units rated 1-5 kilowatts, use 1/2" pipe for vertical and 3/4" pipe for horizontal lines and grade back to unit.

4.1.7 For units rated 6-10 kilowatts use 3/4" pipe for horizontal and vertical lines.

4.2 Steam Manifold

4.2.1 The manifold is to be installed in the duct or plenum with a 1/4" per foot slope downward from the mounting plate and correctly oriented for air flow as per enclosed diagram.

4.2.2 A steam trap is required on the condensate line of 6" height plus duct pressure. This trap must be piped to a drain.

4.2.3 The manifold should be located with the mounting plate on the rear or side of the furnace plenum so not to obstruct furnace service panels on the front.

5. Electrical Wiring Installation

5.1 Installation of Main Power

5.1.1 All electrical installation must conform to local codes or in the absence of local codes, with the current Canadian Electrical Code C.S.A. C22.1 or the national electrical code ANSI/NFPA 70 latest edition.

5.1.2 The panel breaker and main wire must be properly sized for appliance load, check unit rating plate which is attached to the unit's junction box, and see chart below to determine voltage and load.

5.1.3 Install main power as per wiring diagram attached inside the junction box cover.

5.1.4 Never operate unit when empty.

Capacity Table Series HFL						
Input	**Model No.**			**Amps 1 Ph - 60 Cy.**		
KW	**115 Volt**	**208 Volt**	**230 Volt**	**115V**	**208V**	**230V**
1.5	HFL-1X5M1			13.0		
2.0	HFL-2M1	HFL-2M8	HFL-2M2	17.4	9.6	8.7
3.0		HFL-3M8	HFL-3M2		14.4	13.0
4.0		HFL-4M8	HFL-4M2		19.2	17.4
5.0		HFL-5M8	HFL-5M2		24.0	21.7
Double Circuited Series						
6.0		HFL-2E-3M8	HFL-2E-3M2		28.8	26.0
7.0		HFL-2E-3/4M8	HFL-2E-3/4M2		33.6	30.4
8.0		HFL-2E-4M8	HFL-2E-4M2		38.4	34.8
9.0		HFL-2E-4/5M8	HFL-2E-4/5M2		43.2	39.1
10.0		HFL-2E-5M8	HFL-2E-5M2		48.0	43.4

5.2 Control Wiring

5.2.1 All controls for the appliance operate on 24 VAC supplied by remote or built-in transformer.

5.2.2 Wire controls as per wiring diagram attached inside the junction box cover.

5.2.3 This unit must be electrically interlocked with the furnace/air handler so that the humidifier cannot operate without the fan of the furnace/air handler operating as well.

5.2.4 It is highly recommended the unit be wired for year round operation on demand from the humidistat, and its operation bring the furnace/air handler fan on to distribute the moisture via a relay/contactor.

5.2.5 Never operate unit when empty.

6. Operating Procedures

6.1.1 The humidifier is designed to operate on demand of a remote humidistat.

6.1.2 Set humidistat to desired humidity level (approximately 40% R.H.) or , in winter as high as possible until just before condensate appears on windows or other cold surfaces.

6.1.3 If the furnace/air handler operates on continuous blower, blower operation should be confirmed with an air pressure switch or similar.

6.1.4 If the furnace/air handler operates with a cycling blower a contactor/relay would be installed to bring blower on when the humidifier turns on.

6.1.5 Humidity is then distributed through injection manifold and the blower in turn distributes the moisture laden air through the structure or zone.

6.1.6 Normally the humidistat would be turned down during the summer months or when the home is unoccupied. Turning the unit up will bring the humidity levels back up quickly.

7. Maintenance

7.1 For Owner

7.1.1 Because the appliance consists of a sealed stainless steel canister, there is little service the owner can do, other than draining the unit periodically.

7.1.2 ***Caution*** if unit has just operated, drain water will be ***Extremely Hot***. Allow 1-2 hours for unit to cool when draining unit manually.

7.1.3 To reduce scale build up, drain unit frequently (every 10-20 uses) and allow 10 minutes for refilling before turning power back on. ***Never Operate Unit When Empty.***

7.1.4 The amount of usage and the quality of the supply water will determine the draining frequency, and if this should be done manually or automatically.

7.1.5 The appliance is equipped with the external float assembly, this component can be field serviced by following the enclosed instruction sheet.

7.1.6 If you require any attention to your appliance, contact your supplier quoting the model number. It is also helpful if the appliance serial number is also quoted. This information will be found on the appliance rating plate which is attached to the units junction box.

7.2 For Service Engineer

7.2.0 Because the appliance consists of a sealed stainless steel canister, the appliance should be returned to the factory for replacement parts and service.

7.2.1 To aid in the removal of the appliance the unit is equipped with a supply water compression union and a steam discharge di-electric union.

7.2.2 When removing unit turn off supply water and drain unit.

7.2.3 Remove supply water line and steam pipe from unit.

7.2.4 Use a volt meter or test light to ensure main power has been switched off. ***DO NOT*** leave main power leads exposed to accidental contact.

7.2.5 Make note of control wire connections.

7.2.6 Re-installation is the reverse of removal.

7.2.7 Test unit function after re-installation.

7.2.8 ***Never operate unit when empty.***

7.2.9 Injection manifold should be checked periodically for scale or blockage in stainless steel nozzles.

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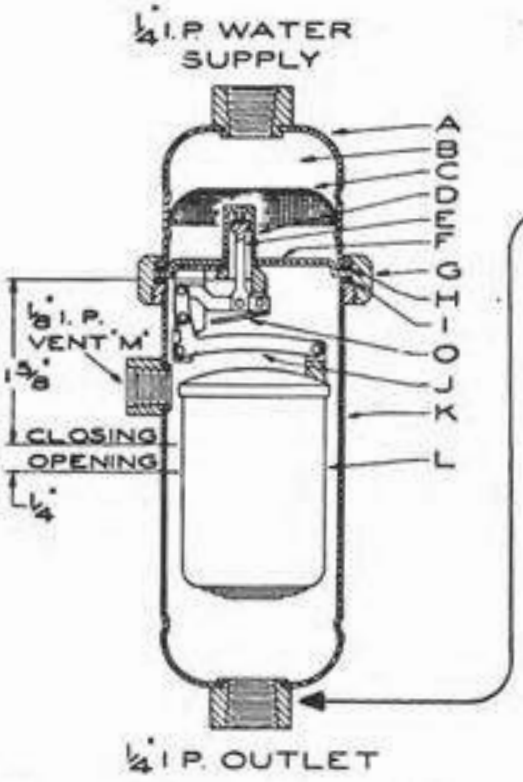

No. 85 Water Boy Feeder

A - Upper Brass Shell N.P.
B - Large Scale Space
C - Monel Filter Screen
D - Nickel Silver Valve Body
E - Valve Stem
F - Removable Bonnet Assembly
G - N.P. Brass Hexagon Nut
H - Rubber Washer
I - Asbestos Washer
J - Brass Lever
K - Lower Brass Shell N.P.
L - Copper Float
M - Equalizer Connection
O - Inlet Water Baffle

THE STEPS REQUIRED TO SERVICE YOUR FLOAT VALVE ARE AS FOLLOWS:

1. Turn off water supply and drain unit.
2. Use 11/16" back-up wrench as indicated by arrow while loosening large nut "G" with a pipe wrench or large plyers.
3. Remove upper brass shell "A", 2-3 ounces of water will be contained in here.
4. The float mechanism "F" and both gaskets can now be removed.
5. If your unit does not feed water fast enough you will probably find the up and down travel of the float is stiff. You should also check the lower bowl and fill tube for scale or any obstructions. The float mechanism may be cleaned and descaled by soaking it in warm vinegar. If that does not free up the travel of the float, a new float and gasket set may be required, which we stock.
6. Install reconditioned/new float with alignment mark on bonnet pointing towards unit. Do not forget the gaskets. Again use 11/16" back-up wrench while tightening large nut "G".
7. Turn on water supply and check for leaks. Allow 10 minutes for refilling before operating steam generator.

If you have any other questions please call us @ (403)243-2923 or fax us @ (403)287-9005.

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