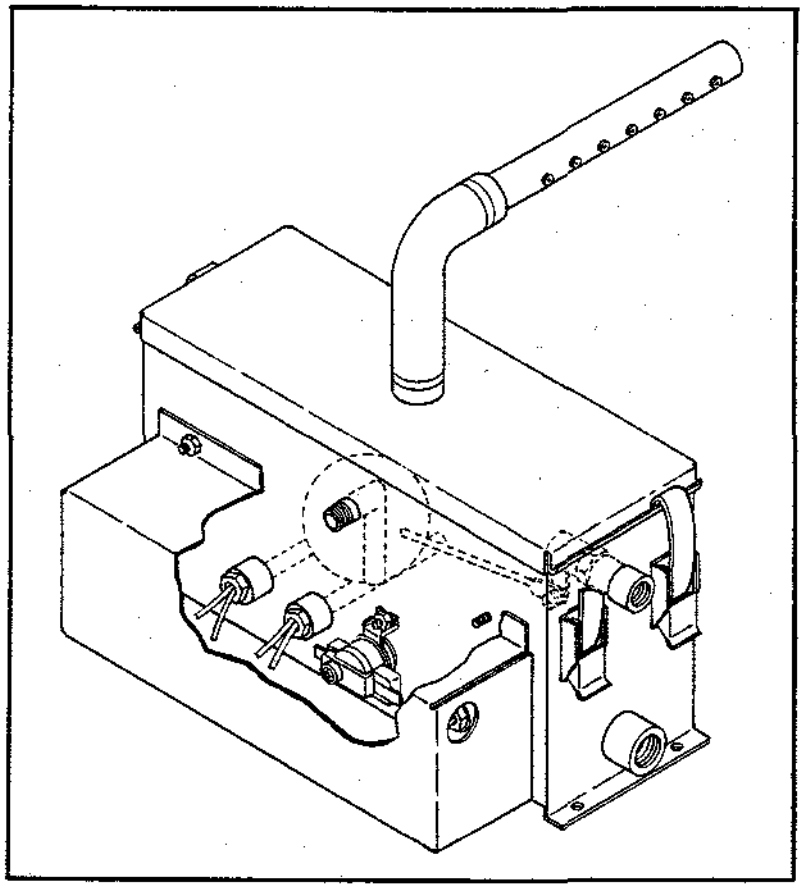
READ AND SAVE THESE INSTRUCTIONS

PROOFBOX HUMIDIFIER

INSTRUCTIONS FOR

•INSTALLATION •OPERATION •MAINTENANCE



TO THE PURCHASER AND THE INSTALLER

Thank you for deciding to purchase Proofbox equipment.

We have applied our best efforts to design and build this equipment to give you total satisfaction and many years of trouble free service.

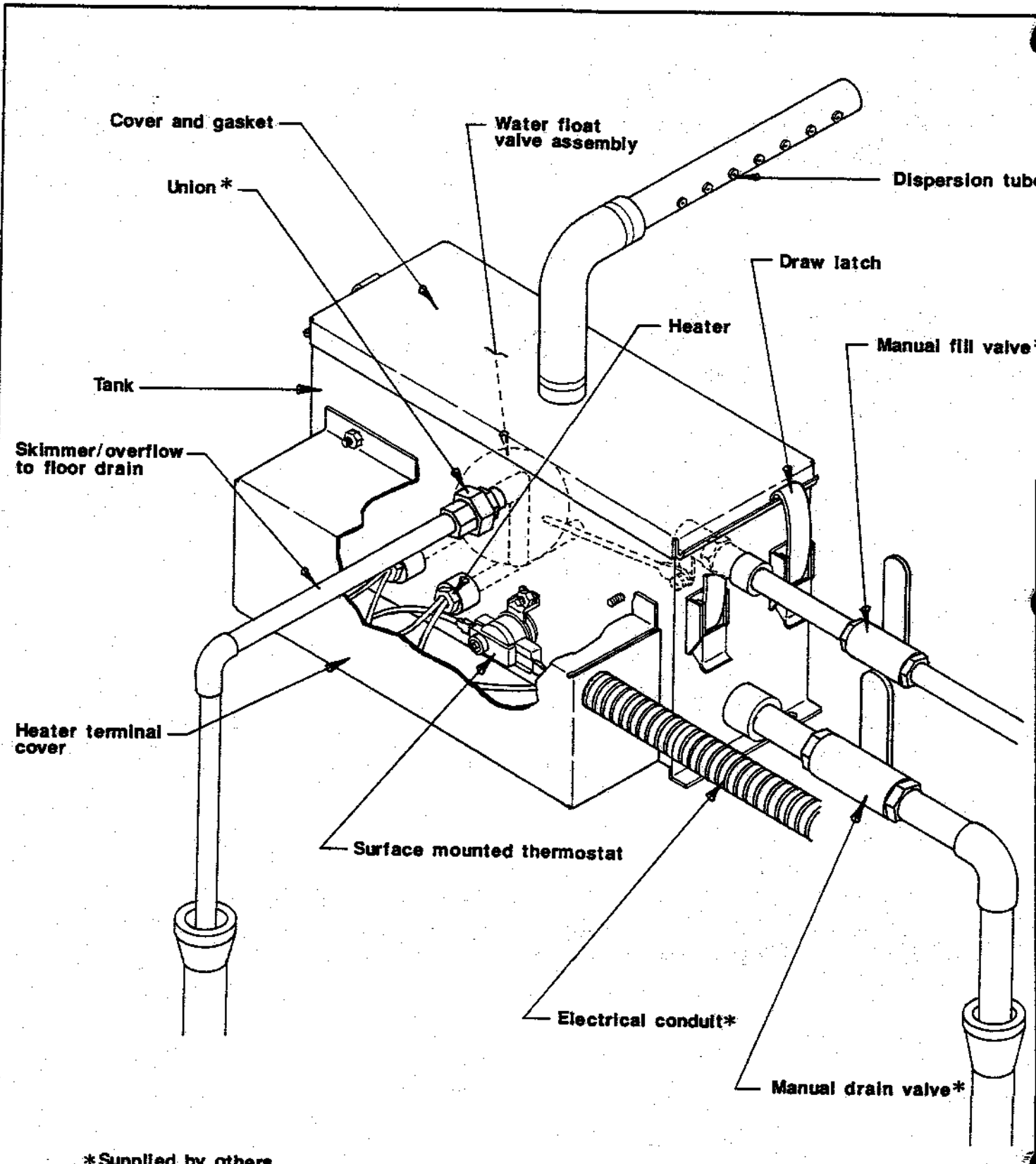
Avoiding certain pitfalls during installation and observing proper operating practices thereafter will assure you of achieving that objective.

We therefore respectfully urge you to familiarize yourself with the contents of this bulletin.

Dri-Steem Humidifier Company

DRI-STEEM®
HUMIDIFIER COMPANY
BOX 128 • HOPKINS, MINNESOTA 55343

TYPICAL COMPONENTS AND PIPING



*Supplied by others

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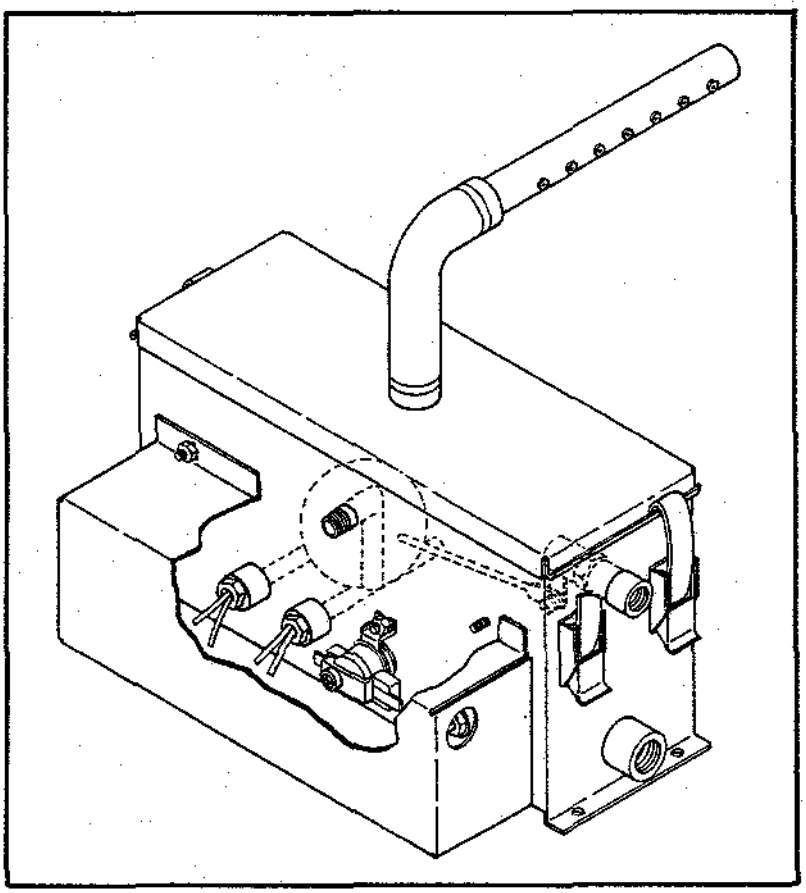

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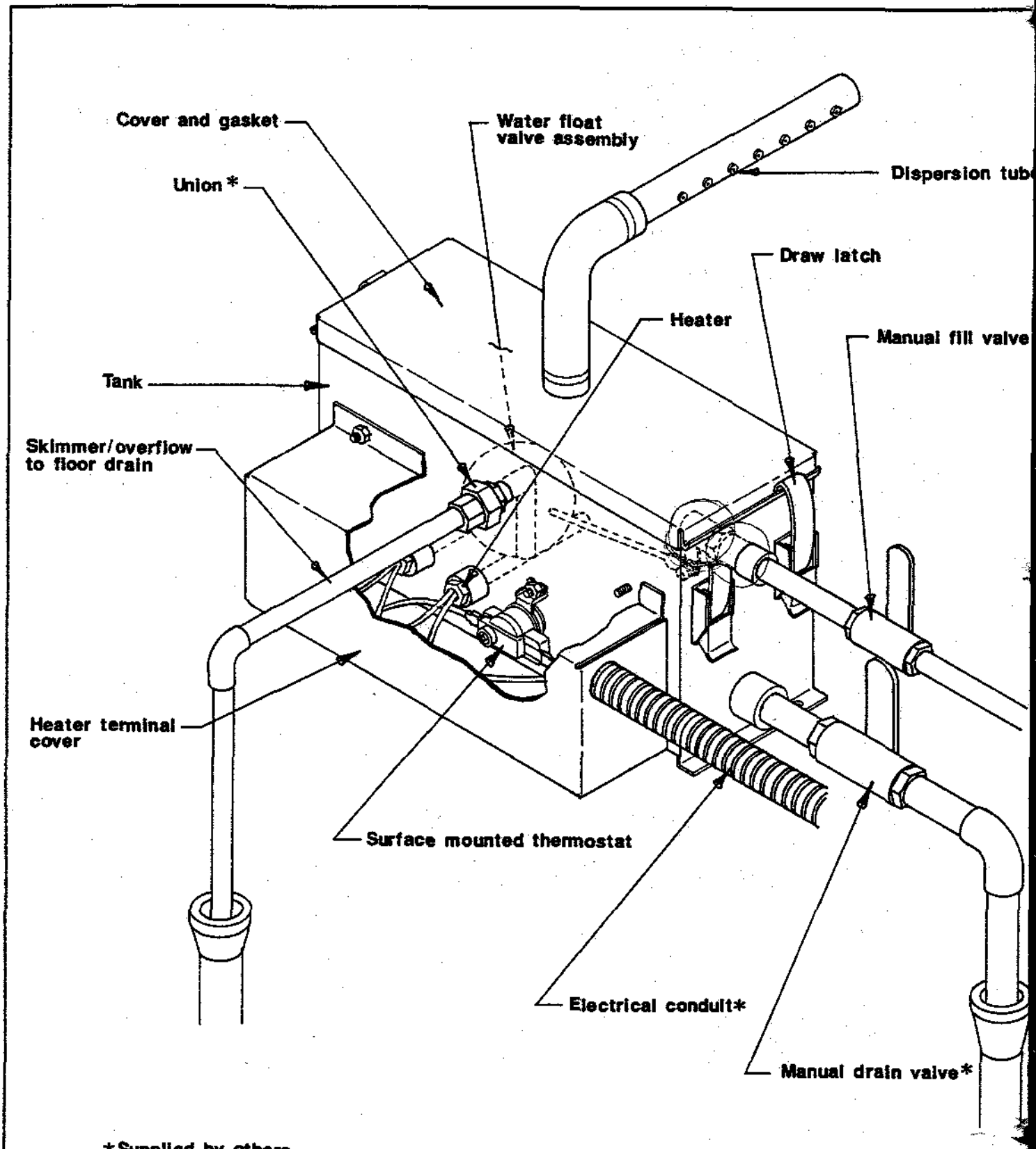
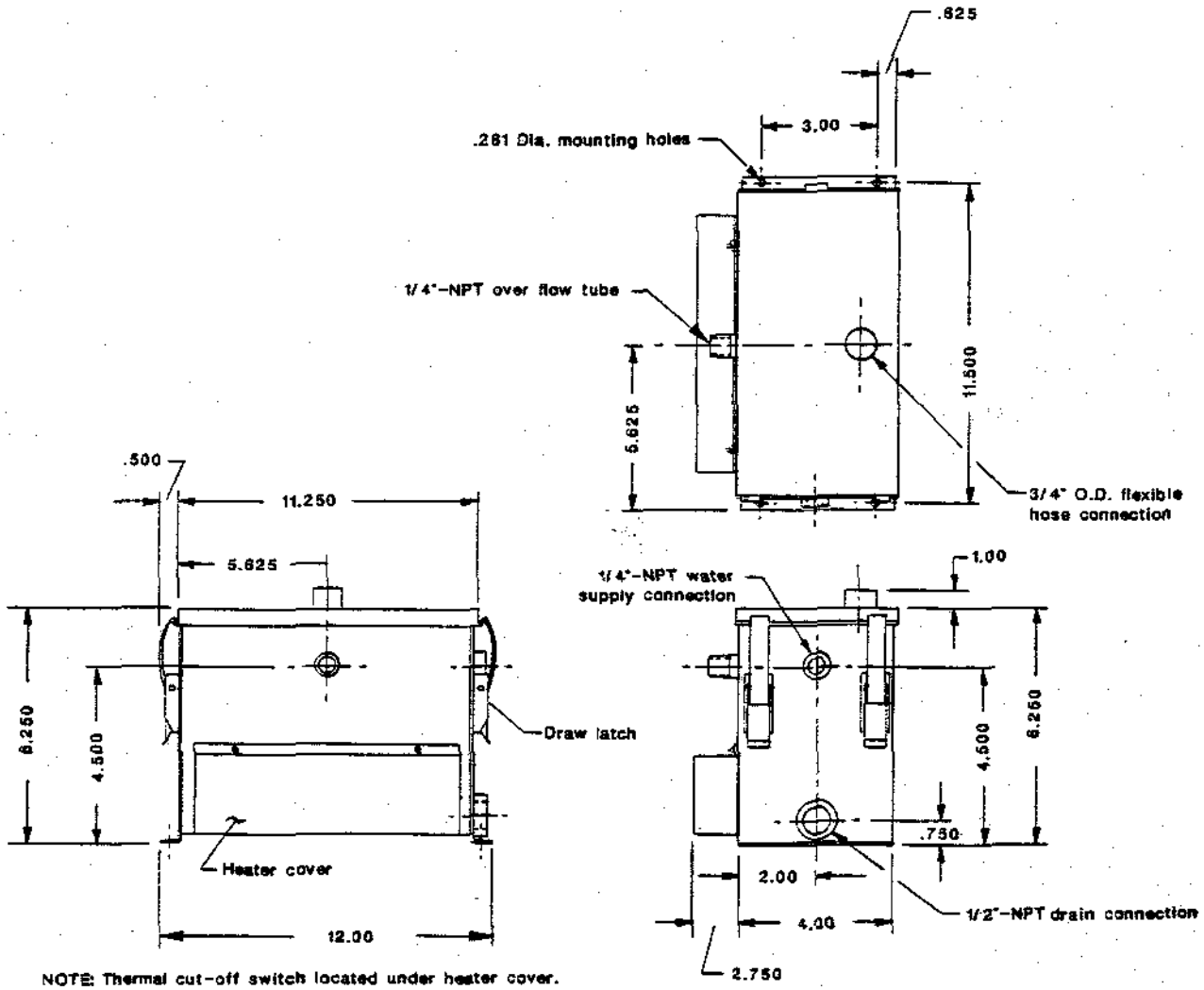


*Supplied by others

ROOF BOX MECHANICAL SPECIFICATIONS

MODEL NO. PB1164

	400 WATT	600 WATT
VOLTAGE:	120/1/60	120/1/60
AMPERAGE:	3.32	5.00
HEATER WATTS:	2@200 EA.	3@200 EA.
CAPACITY (LBS/HR):	1 QT.	1.5 QTS.
EMPTY WEIGHT:	6.25 LBS.	6.5 LBS.
FULL WEIGHT:	13.5 LBS.	13.75 LBS.



NOTE: Thermal cut-off switch located under heater cover.

PROOFBOX HUMIDIFIER WIRING DIAGRAM

NOTE: ALL WIRING TO BE PER LOCAL AND NATIONAL ELECTRICAL CODES

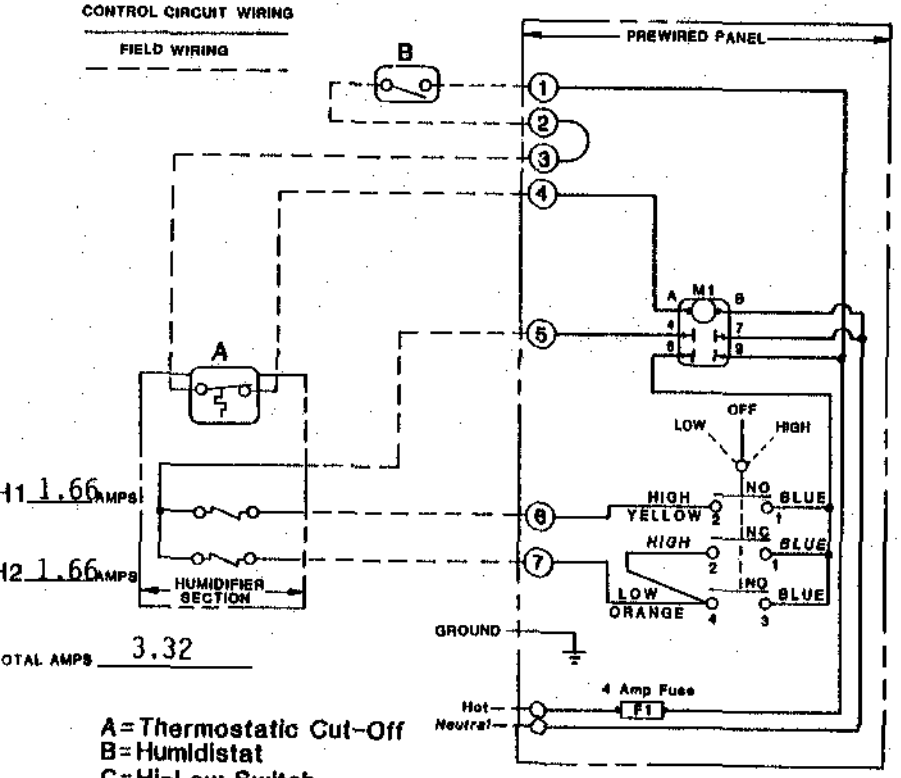
LEGEND

OPTIONAL POWER WIRING

CONTROL CIRCUIT WIRING

FIELD WIRING

SINGLE PHASE
TWO HEATER
TWO STAGE



TOTAL AMPS 3.32

A = Thermostatic Cut-Off
B = Humidistat
C = Hi-Low Switch
F1 = Line Fusing
H1-2 = Heater
M1 = Contactor

DRI-STEEM HUMIDIFIER COMPANY
BOX 621 11300 WEST 47th ST.
HOPKINS, MINNESOTA 55343
PHONE (612) 933-6986

Diagram No. PB12-400

Model No. _____

Order No. _____

Primary Voltage: 120 Volt Single Phase

Control Voltage: 120 Volt Single Phase

Job: _____

Heater: 120/1/60 200 WATT EA.

PROOFBOX HUMIDIFIER WIRING DIAGRAM

NOTE: ALL WIRING TO BE PER LOCAL AND NATIONAL ELECTRICAL CODES

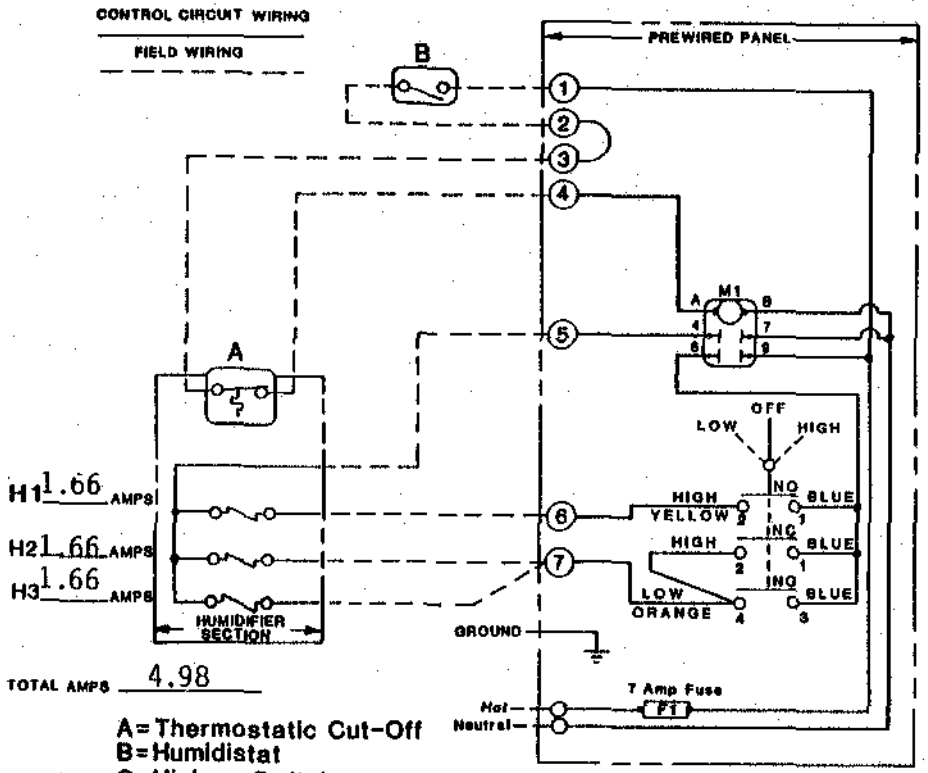
LEGEND

OPTIONAL POWER WIRING

CONTROL CIRCUIT WIRING

FIELD WIRING

SINGLE PHASE
THREE HEATER
TWO STAGE



TOTAL AMPS 4.98

A = Thermostatic Cut-Off
B = Humidistat
C = Hi-Low Switch
F1 = Line Fusing
H1-3 = Heater
M1 = Contactor

DRI-STEEM HUMIDIFIER COMPANY
BOX 621 11300 WEST 47th ST.
HOPKINS, MINNESOTA 55343
PHONE (612) 933-6986

Diagram No. PB13-600

Model No. _____

Order No. _____

Primary Voltage: 120 Volt Single Phase

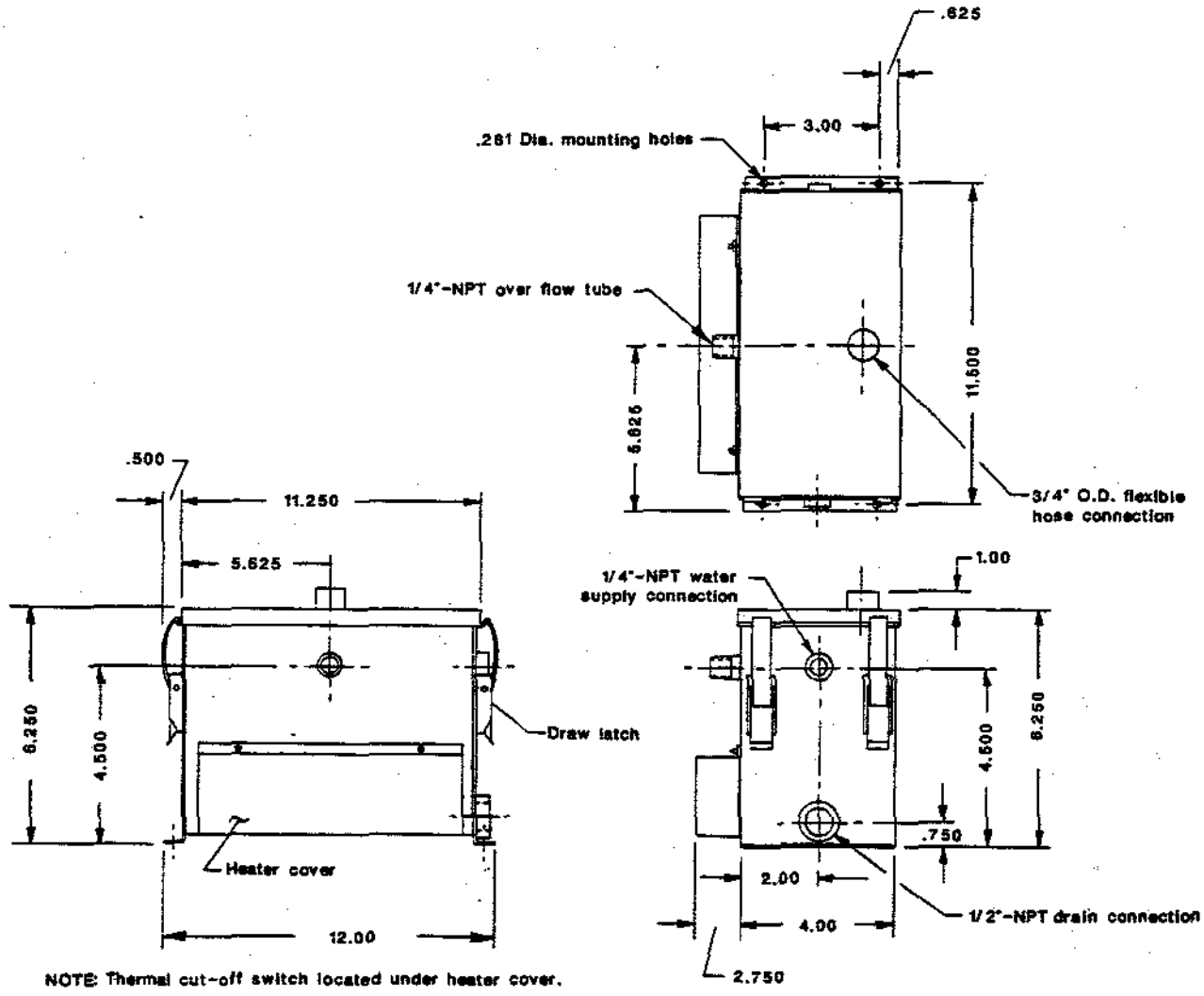
Control Voltage: 120 Volt Single Phase

Job: _____

Heater: 120/1/60 200 WATT EACH

ROOF BOX MECHANICAL SPECIFICATIONS

	MODEL PB114	MODEL PB115
	400 WATT	600 WATT
VOLTAGE:	120/1/60	120/1/60
AMPERAGE:	3.32	5.00
HEATER WATTS:	2@200 EA.	3@200 EA.
CAPACITY (LBS/HR):	1 QT.	1.5 QTS.
EMPTY WEIGHT:	6.25 LBS.	6.5 LBS.
FULL WEIGHT:	13.5 LBS.	13.75 LBS.



NOTE: Thermal cut-off switch located under heater cover.

PROOFBOX HUMIDIFIER WIRING DIAGRAM

NOTE: ALL WIRING TO BE PER LOCAL AND NATIONAL ELECTRICAL CODES

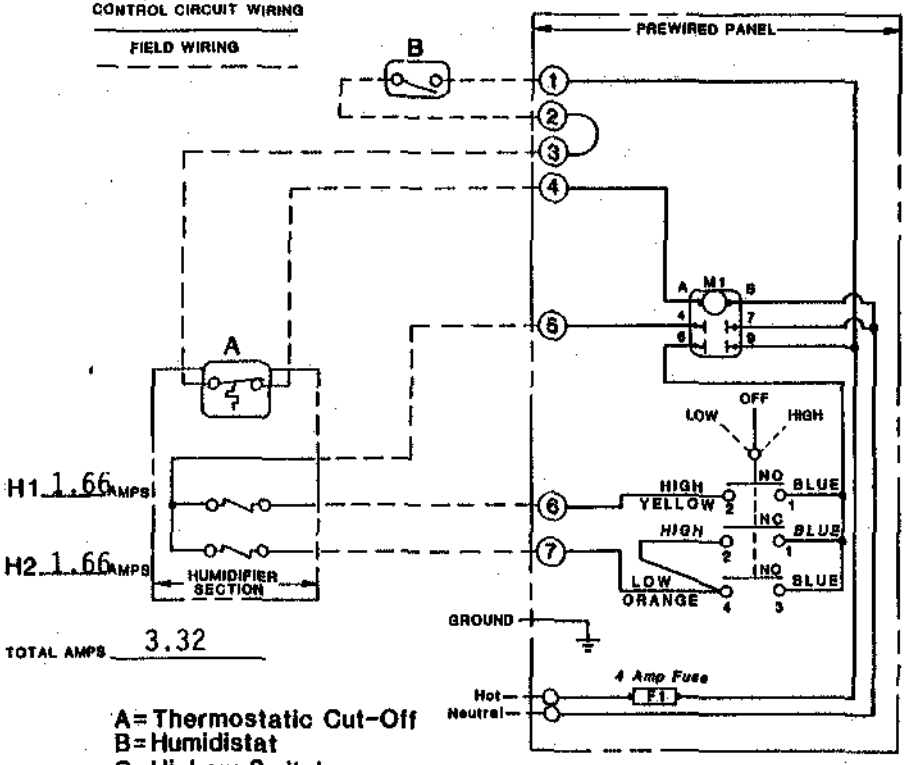
LEGEND

OPTIONAL POWER WIRING

CONTROL CIRCUIT WIRING

FIELD WIRING

SINGLE PHASE
TWO HEATER
TWO STAGE



TOTAL AMPS 3.32

A=Thermostatic Cut-Off
B=Humidistat
C=Hi-Low Switch
F1=Line Fusing
H1-2=Heater
M1=Contactor

DRI-STEEM HUMIDIFIER COMPANY
BOX 621 11300 WEST 47th ST.
HOPKINS, MINNESOTA 55343
PHONE (612) 935-6986

Diagram No. PB12-400

Model No. _____

Order No. _____

Primary Voltage: 120 Volt Single Phase

Control Voltage: 120 Volt Single Phase

Job: _____

Heater: 120/1/60 200 WATT EA.

PROOFBOX HUMIDIFIER WIRING DIAGRAM

NOTE: ALL WIRING TO BE PER LOCAL AND NATIONAL ELECTRICAL CODES

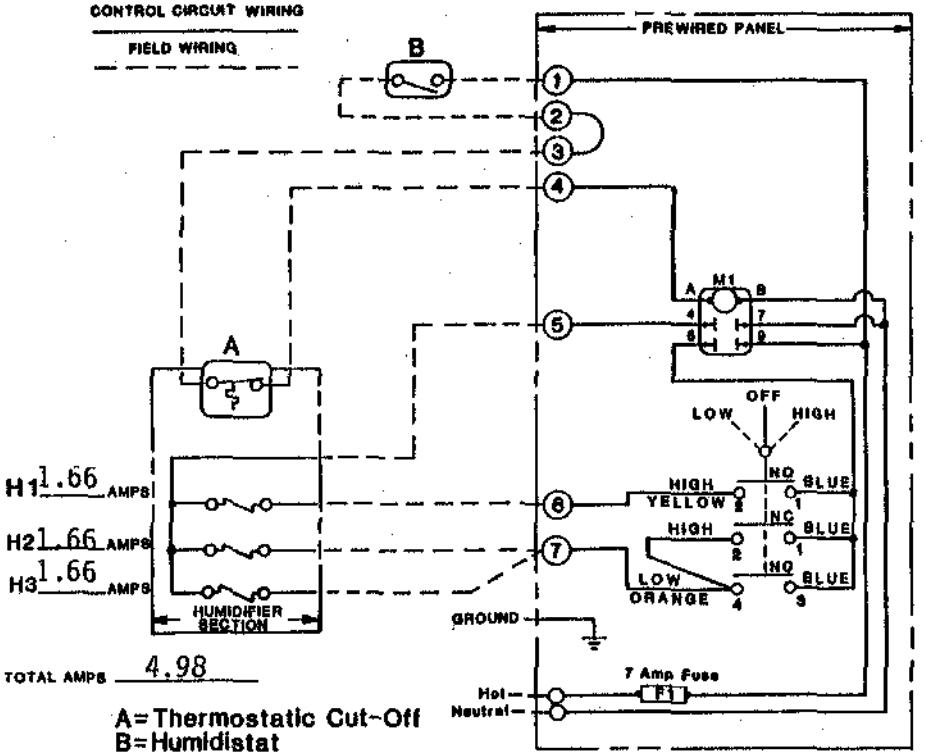
LEGEND

OPTIONAL POWER WIRING

CONTROL CIRCUIT WIRING

FIELD WIRING

SINGLE PHASE
THREE HEATER
TWO STAGE



TOTAL AMPS 4.98

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M1=Contactor

DRI-STEEM HUMIDIFIER COMPANY
BOX 621 11300 WEST 47th ST.
HOPKINS, MINNESOTA 55343
PHONE (612) 935-6986

Diagram No. PB13-600

Model No. _____

Order No. _____

Primary Voltage: 120 Volt Single Phase

Control Voltage: 120 Volt Single Phase

Job: _____

Heater: 120/1/60 200 WATT EACH

LOCATION

When selecting the location, first consideration should be given to rapid, thorough absorption of the steam. The warmest air will most readily absorb the steam. The most active part of the air stream will provide the best mixing of the steam and air. Avoid dead spots such as the curve of an elbow or an area immediately downstream of a baffle plate. Since the "fog" will travel some distance before "disappearing" and will saturate objects it touches while visible, avoid discharging the steam closer than 4-8 feet upstream of fans, filters, dampers, etc. unless the air temperature is warmer than 90 F. If so, 2-4 feet is permissible.

When using the vapor hose kit, condensate will drain into the duct unless the dispersion tube holes are pointed up and the tube and vapor hose are pitched properly. Preferably, the condensate should drain back to the humidifier from the vapor hose. When obstructions prevent this, an alternate method is used (see page 6). Waterlogged low points in the hose will cause "gurgling" and in severe conditions periodic "slugs" of condensate will be discharged into the duct.

The location selected must also provide for electrical service, cold water for makeup and sanitary waste.

MOUNTING

For proper operation of the water level control systems and the skimmer system the humidifier should be mounted dead level.

Access for periodic removal of the top cover is recommended. In most cases, scale that settles to the bottom can be flushed through the drain opening. However, removal through the top cover is easier.

If the Proofbox is to be installed above expensive materials or devices, a drain pan of sufficient size and and depth to retain rapid or sudden drainage of the contents of the humidifier should be provided. The drain pan should be drained to a sanitary waste.

MAKEUP WATER PIPING

Cold or hot makeup water. If the water pressure is above 60 PSI and/or water hammer would be objectionable, a pressure reducing valve or shock arrester should be installed. Even though the Proofbox has an internal 1/2" air gap, some local codes may require a vacuum breaker; a water shut off valve is suggested.

DRAIN PIPING

A drain line should be extended from the skimmer connection to a sanitary waste. An internal water seal is provided in the humidifier of sufficient height to contain the pressure developed within the tank. Without this, steam will be forced through the drain line which could be objectionable. The humidifier has a maximum static pressure rating of 2 inches of water. The air handling system plus the pressure developed by the humidifier itself should be less than this rating. A manual drain valve may also be added.

ELECTRICAL

The current characteristics, and capacity requirements should be checked against the nameplates. The control cabinet should be mounted in a location convenient for service. All wiring must be in accordance with all governing codes and the Proofbox wiring diagram. The diagram is inside the control cabinet and the humidifier must have wiring rated for 105 C.

CAUTION: Only qualified electrical personnel should perform Installation and Start Up Procedures.

START-UP PROCEDURE

1. MOUNTING

Check mounting to see that unit is level and securely supported before filling with water.

2. PIPING

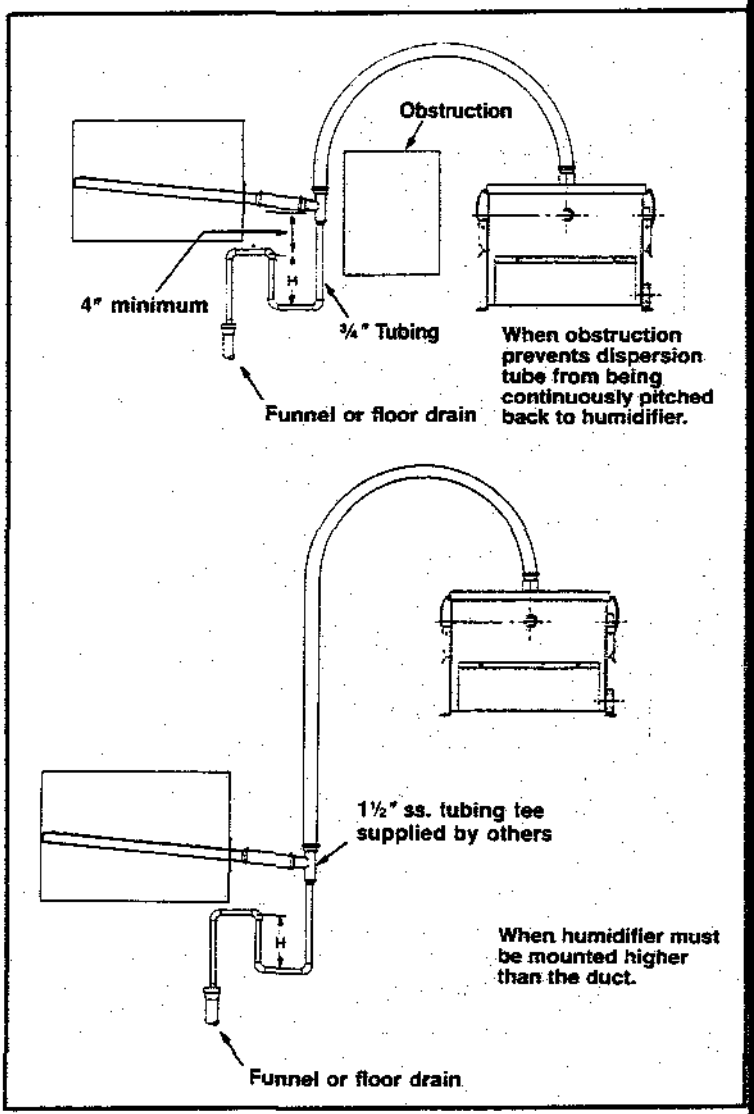
Verify that all piping connections have been completed as recommended and that water pressure is available.

3. ELECTRICAL

Verfiy that all wiring connections have been made in accordance with the Proofbox wiring diagram.

4. CONTROL CIRCUITS

a.) Adjust humidistat to "call" setting.
b.) Open shut off valve on water supply line.
c.) Set main circuit breaker to "on" position. Increase set point on humidistat to maximum position. Switch selector to "high" position, relay will energize activating heaters. Reduce humidistat set point to desired humidity condition. Note: If a low water situation exists, a surface mounted thermostat is located on side of tank to sense an over heating condition to shut off heaters.



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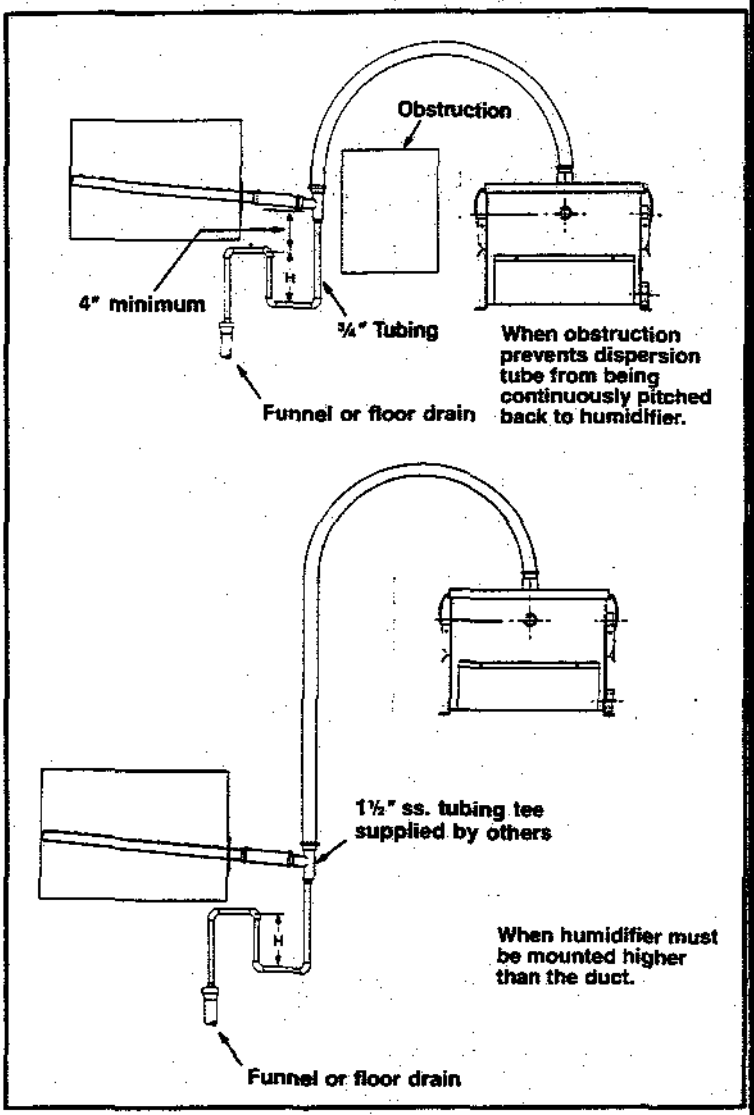

RECOMMENDED MAINTENANCE

Proofbox humidifier is designed to have a small amount of continuous surface skimming action out the overflow tube to reduce mineral concentrations. For light to moderate hardness (up to 10 grains per gallon), the surface skimming action plus annual cleaning is usually adequate. For high mineral water, more frequent drain and cleaning is necessary.

Cleaning monthly, or as required, clean tank, heater, float valve assembly and check overflow tube for any accumulated deposits.

At the conclusion of the need for humidification completely clean tank assembly. After cleaning, the unit should be left unfilled until such time when humidification is required again.

PROOF BOX REPLACEMENT PARTS LIST

Humidifier

		Part Number
1.	Electric heater, 200 watt, 120 volt	409950-001
2.	Surface mounted thermostat	409560
3.	Water float valve assembly	505210
4.	Cover gasket assembly	----------
5.	Cover draw catch (3)	700455
6.	12" long dispersion tube, 3/4 dia.	----------

Control Circuit

1.	Heater selector switch assembly	409960-001
2.	Replacement fuse, 4 amp (PB13-400) 7 amp (PB13-600)	ATM 4 406740-007
3.	Single pole fuse block, 30 amp	407450-002
4.	Control relay, 2 pole, 10 amp, 120 volt coil	407900-002
5.	Barber Colman HC101 wall mounted humidistat	405870
6.	Input 2 pole power terminal block	408300-001
7.	Control 9 pole terminal block	408250-003

MAINTENANCE RECORD AND NOTES

DATE	

The Proofbox Warranty

1. *Warranty.* Dri-Steem Humidifier Company (the "Company") guarantees its products to be free of defects in materials and workmanship under the service for which they are intended. The Company will repair or replace, without charge except for labor charges, products or parts which are found to be defective within one year from the date of shipment or, at the option of the Company, will refund the purchase price.

2. *Exclusions of other warranties.* The warranty described in the above paragraph shall be IN LIEU OF any other warranty, express or implied, including but not limited to any implied warranty of MERCHANTABILITY or fitness for a particular purpose.

3. *Limitation of Remedies.* By purchasing the Company's products, the purchaser agrees with the Company that the purchaser's sole and exclusive remedy shall be for the repair or replacement of defective parts or products, without charge except for labor charges, as described in paragraph 1, above. The purchaser agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available to him.

DRI-STEEM®
HUMIDIFIER COMPANY
BOX 128, 11300 WEST 47TH STREET
HOPKINS, MINNESOTA 55343
TELEPHONE: 1-(800)-328-4447
IN MN CALL: (612) 935-6986
TELEX: 290675
FAX: 1-612-935-4831

Form No. PBMO-0987

Printed in U.S.A.

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2. Surface mounted thermostat	409560
3. Water float valve assembly	505210
4. Cover gasket assembly	----------
5. Cover draw catch (3)	700455
6. 12" long dispersion tube, 3/4 dia.	166060-012

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3. Single pole fuse block, 30 amp	407450-002
4. Control relay, 2 pole, 10 amp, 120 volt coil	407900-002
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