

INSTALLATION / OWNER'S MANUAL

Schwank
INNOVATIVE HEATING SOLUTIONS
ISO 9001:2000 REGISTERED



infrasave
radiant heaters
ISO 9001:2000 REGISTERED

AGROSCHWANK

IN

HIGH EFFICIENCY PORK NURSERY HEATER

FOR YOUR SAFETY:

Do not store or use gasoline or other flammable vapours and liquids in the vicinity of this or any other appliance.

If you smell Gas:

- >Extinguish any open flames
- >Don't touch electrical switches

FIELD CONVERTIBILITY:

“The conversion shall be carried out in accordance with the requirements of the authorities having jurisdiction and in accordance with the requirements of the B149.1-00 (latest edition) INSTALLATION CODE” in Canada, and the ANSI Z223.1 (latest edition) in the U.S.A.



FOR YOUR SAFETY

If you smell gas:

- 1) Open windows
- 2) Don't touch electrical switches
- 3) Extinguish any open flame

Immediately call your gas supplier



NOTICE:

The manufacturer reserves the right to make changes to equipment and specifications without obligation or notification.

This publication, or parts thereof, may not be reproduced in any form, without prior written consent from the manufacturer. Unauthorized use or distribution of this publication is strictly prohibited.

*Schwank Inc.
5285 Bradco Boulevard,
Mississauga, Ontario,
phone: (905) 712-4766
fax: (905) 712-8336
1-866-361-0417*

*PO Box 988, 2 Schwank Way
Waynesboro, Georgia,
USA 30830
Phone: (706) 554-6191
Technical Support: 1-877-446-3727
Fax: (706) 554 9390*

e-mail: info@schwankheaters.com

www.schwankheaters.com

*InfraSave Inc.
Mississauga, Ontario
Waynesboro, Georgia
1-866-INFRA SV (463-7278)
Fax: 1-866-724-9265*

Info@infrasave.com

www.infrasave.com

AGROSCHWANK / IN

HIGH EFFICIENCY PORK NURSERY HEATER

TABLE OF CONTENTS

TOPIC	PAGE NUMBER
1. GENERAL.....	1
2. INSTALLATION REQUIREMENTS	1
2.1 INSTALLATIONS OTHER THAN SPACEHEATING.....	1
2.2 MOUNTING CLEARANCES.....	2
2.3 HEATER MOUNTING	2
2.4 VENTILATION REQUIREMENTS	2
2.5 GAS SUPPLY LINE INSTALLATION.....	3
2.6 GAS PRESSURE	3
2.7 ELECTRICAL REQUIREMENTS & THERMOSTAT CONTROL.....	4
3. INSTALLATION PROCEDURES	4
4. LIGHTING INSTRUCTIONS	5
5. SHUT DOWN INSTRUCTIONS.....	5
6. AIR BORNE PARTICLES.....	5
7. SERVICE GUIDE	6
7A. TROUBLESHOOTING GUIDE	6
8. DIAGRAMS AND SPECIFICATIONS.....	9
8.1 DIMENSION DIAGRA.....	9
8.2 SUSPENSION HARDWARE.....	9
8.3 MOUNTING DIAGRAM.....	10
8.4 HORIZONTAL CLEARANCE DISTANCE TO COMBUSTIBLES.....	10
8.5 ANGLE CLEARANCE DISTANCE TO COMBUSTIBLES.....	10
8.6 SUGGESTED MOUNTING DISTANCE FOR COMFORT.....	11
8.7 HORIZONTAL COMFORT MOUNTING	11
8.8 ANGLED COMFORT MOUNTING	11
8.9 ELECTRICAL WIRING DIAGRAM	12
9. OPTIONAL COMPONENTS	13
10. LIMITED WARRANTY	14

AGROSCHWANK / IN HIGH EFFICIENCY PORK NURSERY HEATER INSTALLATION INSTRUCTIONS

1. GENERAL

The agroSchwank / IN gas fired infra-red luminous heaters are suitable to be installed for heating of non-residential indoor spaces. These installation instructions are intended for the **agroSchwank / IN** heaters. All installations must conform to the following installation requirements. All local, provincial and national code requirements including the current latest edition B149.1 INSTALLATION CODE in Canada, or ANSI Z223.1 in the United States for gas burning appliances and equipment. The latest edition Electrical Code PART 1 CSA C22.1 in Canada or ANSI/NFPA N0 70 in the United States must also be observed.

Due to ever changing standards and requirements, revision to our equipment and installation procedures may be necessary. In case of discrepancies, the latest installation manual will take priority.

The **agroSchwank / IN** heater is approved for Agricultural installations as well as other non-residential indoor spaces. It is beyond the scope of these instructions to embrace all conditions that will be encountered. All system piping must be supported in accordance with acceptable practice, local codes, and applicable standards.

2. INSTALLATION REQUIREMENTS

2.1 INSTALLATIONS OTHER THAN SPACE HEATING

Use for process applications will void the C.S.A. certification and will require governing authority field certification at the installers/owners responsibility and expense.

2.2 MOUNTING CLEARANCES

The luminous Heater must be mounted with minimum clearances as shown in sections 8.3 to 8.9. It should also be located with respect to building construction and equipment, so as to provide sufficient clearance and accessibility for servicing and cleaning of burners and ignition control.

WARNING:

The Pork Nursery Heaters cannot be installed inside degreasing plants, nor can they be in an area where chlorine, fluorine or bromine are stored, or present continuously during the operation of the heater.

2.3 HEATER MOUNTING

The Pork Nursery Heaters are approved for both horizontal and angle mounting. When angle mounting, the short axis may be rotated in either direction to a maximum of 45°. Improper angle mounting can result in damage to the heater or unsafe operation.

IMPORTANT:

For either horizontal or angle mounting, the long axis of the heater must be level. Use only non-combustible mounting hardware.

2.4 VENTILATION REQUIREMENTS

It is required to provide a combined infiltration of natural and mechanical ventilation air. As well as natural ventilation, it is recommended by the Manufacturer that an unvented heater be electrically interlocked to the existing Barn Automatic Ventilating system to prevent heaters from firing without adequate Barn ventilation air for proper combustion. Be sure the air inlet grilles, louvers, and dampers are inspected regularly and that they are clear and free of dust, dirt, snow, ice, frost and other foreign material, so that air may freely enter into the building to provide adequate combustion and ventilation air.

2.5 GAS SUPPLY LINE INSTALLATION

- A. All piping must be installed according to local codes:
- B. A gas shut off valve installed in the vertical drop leg supply line to heater is required.
- C. A drip-pocket at the bottom of the branch tee downstream of the shut-off valve, of equal pipe size to the drop leg supply line.
- D. It is recommended to install an approved flexible connector from the branch tee to the heater (available as an option)
- E. On propane-fired units, a main line filter and vaporizer is recommended.
- F. Piping joint compounds must be resistant to the action of liquefied petroleum gases.
- G. All piping joints should be tested for leaks with a soap and water solution.

CAUTION: Do not install any gas piping in heat zones. Do not subject heater controls to leak test pressures when checking the main supply piping.

2.6 GAS PRESSURE

The maximum supply pressure must be limited to 14" W.C. (0.51 psi). If the line pressure is above 14" W.C., then a separate pressure reducing regulator must be used. The minimum pressure at the inlet to the heater regulator must be equal to or greater than 6.0" W.C. for natural gas and 11.0" W.C. for propane gas.

A combination Gas Valve is supplied with the heater which maintains the proper manifold pressure when the main burner is operating under the following pressure:

	<u>LINE PRESSURE IWC</u>		<u>MANIFOLD PRESSURE IWC AT TAP IN GAS VALVE</u>
	<u>MINIMUM</u>	<u>MAXIMUM</u>	
NATURAL GAS	6.0	14.0	5.0
PROPANE GAS	11.0	14.0	10.0

Natural gas models are orificed for 1000 BTU/CU FT., and propane gas models are orificed for 2500 BTU/CU FT.

2.7 ELECTRICAL REQUIREMENTS AND THERMOSTAT CONTROL

All electrical installations must meet local and the latest edition Electrical Code PART 1 CSA C22.1 in Canada or ANSI/NFPA N0 70 in the United States. The heater must be electrically grounded in accordance with the local electrical code. Malfunction of the heating system may result if the voltage varies by more than +10% or -10%. The heater can be controlled by a line voltage thermostat, “On-Off” switch or Integrated Barn Control System. Total load of all heaters must be considered in determining the required contact rating of the controlling thermostat or switch.

WARNING:

The heater must be electrically grounded in accordance with the current Electrical Code.

It is good wiring practice and the installers responsibility to ensure that correct wiring polarity is maintained throughout installation. The Fenwal DSI control is polarity sensitive and **WILL** malfunction if the polarities are reversed. The black wire **MUST** be wired to Hot, and the white wire **MUST** be wired to Neutral. If the polarity is reversed the module will not function correctly and will eventually burn out.

3. INSTALLATION PROCEDURES

- A. All gas piping must be properly sized from gas source to all heaters.
- B. Properly install gas line as outlined in section 2.5.
- C. Mount heaters by using non-combustible mounting hardware as illustrated in section 8.2. Observe the minimum clearances as outlined in sections 8.3 to 8.7.
- C. Connect heater to the main gas line. It is recommended to use a flexible connector (available as option) to absorb gas line expansion and any building vibration .
- D. Mount thermostat at desired location, away from direct infra-red rays of heater and not on cold wall without sufficient insulation backing. Install exhaust fan, as per section 2.4 and section 2.7.
- E. Check gas line for leakage by using soap test or gas meter test. Ensure gas pressure meets the requirements outlined in section 2.6.
- F. Ensure proper electrical rating in the system by checking the voltage at ignition module terminals.
- H. Test fire the heating system by following the lighting instructions as shown on the next page and on heater.

WARNING:

When testing the main gas line pressure, ensure the gas shut-off valve is “OFF”, otherwise damage to the combination gas valve will result.

4. LIGHTING INSTRUCTIONS

- A. Open the isolation valve in the main gas line and turn gas control knob on the combination gas valve to the “ON” position.
- B. Switch on electrical circuit by turning the thermostat to the highest temperature setting.
- C. The heater should attempt ignition and remain lit within 21 seconds. Note that the Barn ventilation system fan is operating.
- D. If ignition does not occur, then cut off electrical power by turning the thermostat to off position.

WARNING: If heater back-fires during operation, then it must be turned off immediately.

Indication of back-firing:

- A. Loud ignition noise, then followed by distinct hissing sound.
- B. Little or no visible burning on the ceramic tile.
- C. Combustion is taking place inside the burner body.

Cause & remedy of back-firing:

- A. Improper gas pressure entering the venturi tube.....**check pressure.**
- B. Breakage of a ceramic tile and or gasketing**replace damaged part.**
- C. Faulty sealing of the ceramic tile to the burner body, caused by breakdown of gasketing material**contact your distributor.**

5. SHUT DOWN INSTRUCTIONS

- A. Turn off electrical circuit for temporary shutdown.
- B. Turn off the electrical circuit and turn gas control knob to the “OFF” position for complete shut-down.

6. AIR BORNE PARTICLES

Under certain conditions, heater may discolour due to ambient air borne particle deposits on the outside surface. These deposits in no way affect the operation of the heater nor the manufacturer’s warranties.

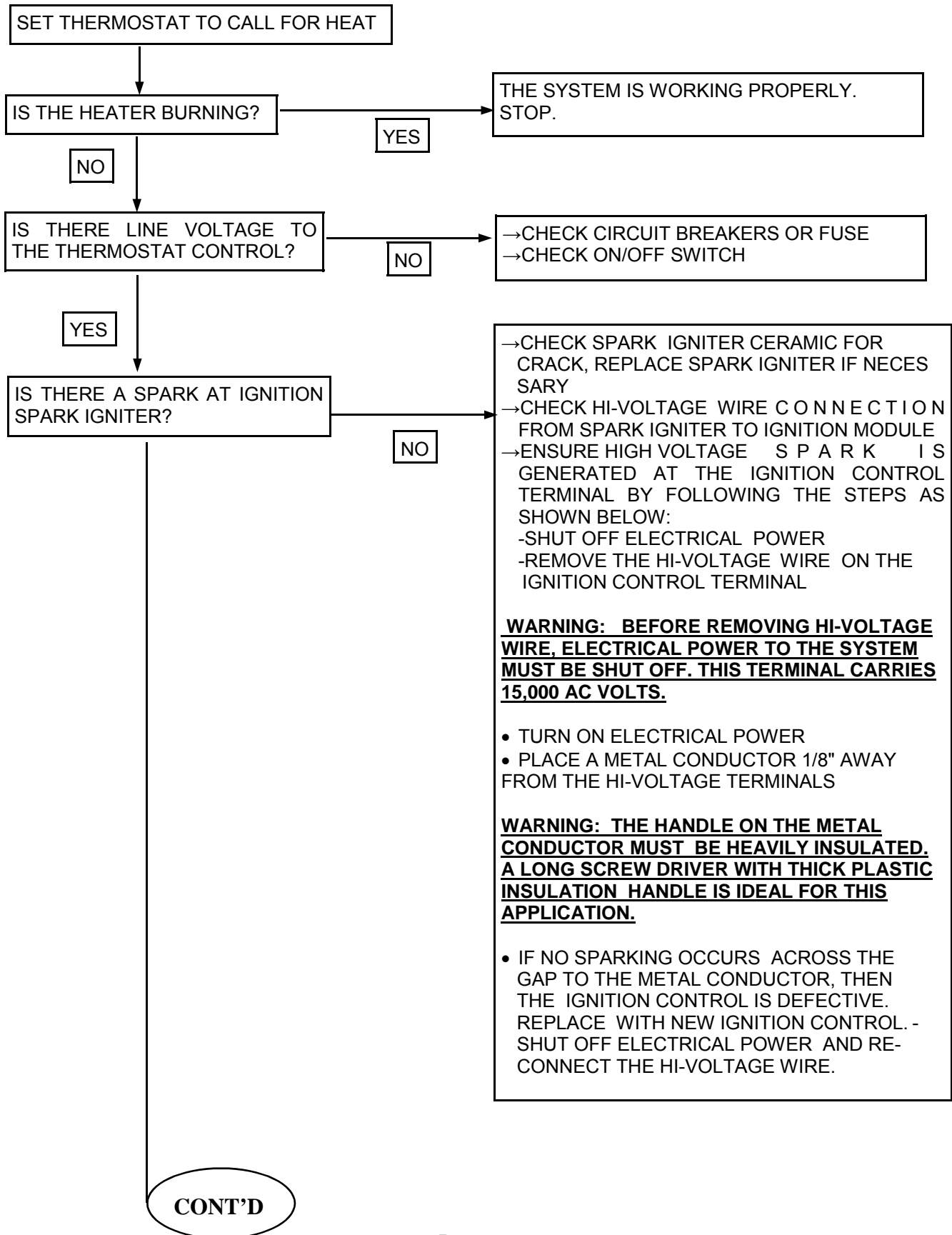
7. SERVICING GUIDE

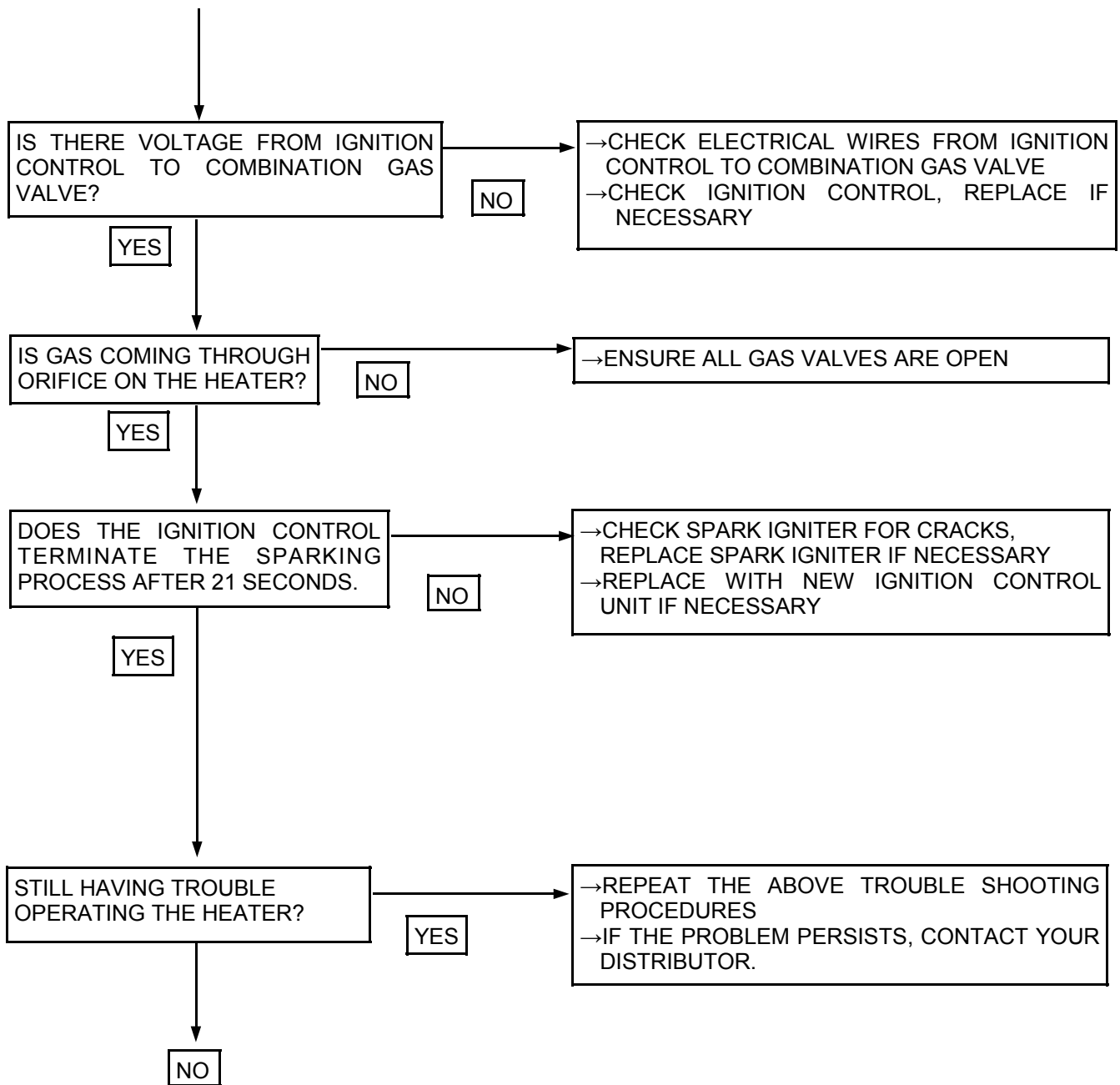
Servicing of heater is essential for continued efficient operation. Servicing should be carried out annually by qualified service personnel.

- A. Clean the ceramic tile with compressed air. Avoid directing air stream at the gasketing material between tile and heater body. The air pressure must be lower than 20 psi.
- B. Clean the venturi tube with compressed air, at a pressure not to exceed 20 psi.
- C. Clean the reflectors.

Note: It is recommended that heaters be disconnected and removed during any Barn wash down procedures.

7A. TROUBLESHOOTING GUIDE





8. DIAGRAMS AND SPECIFICATIONS:

8.1 DIMENSION DIAGRAM

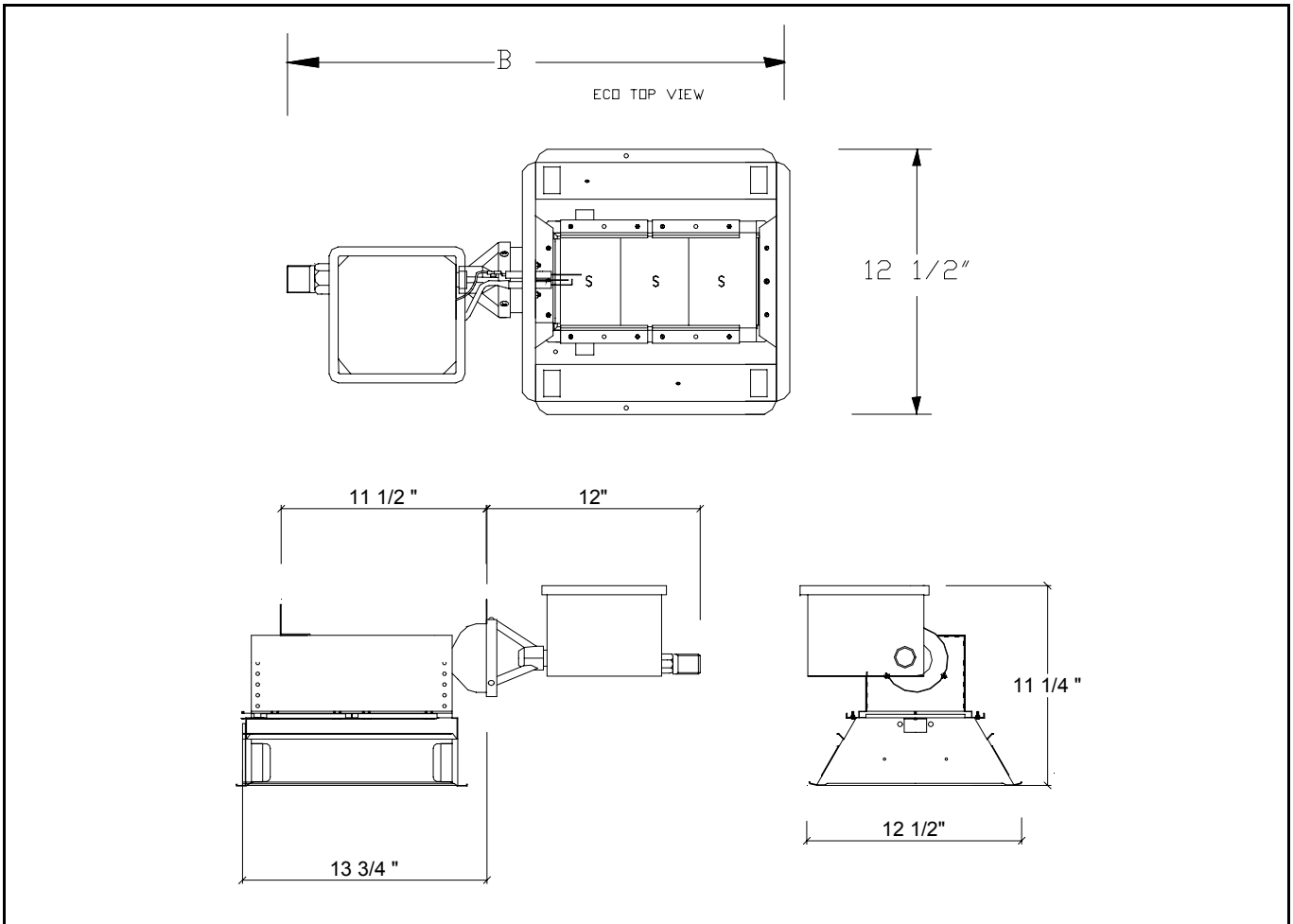
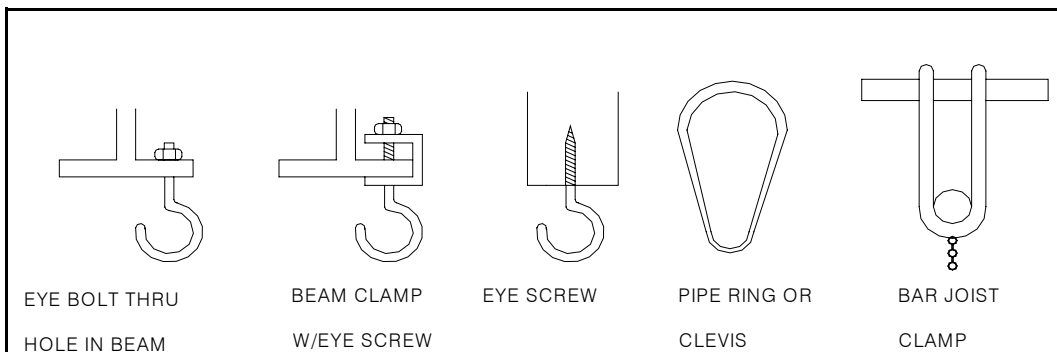


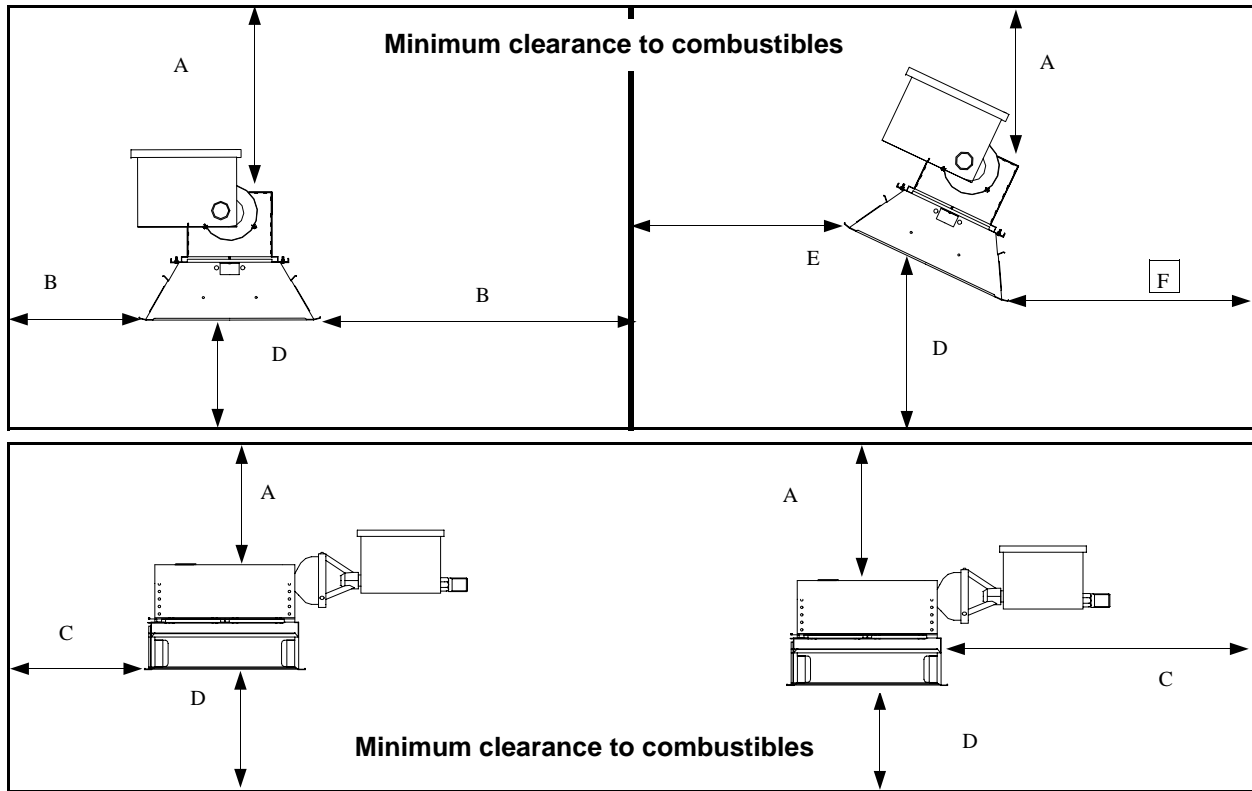
TABLE 1: DIMENSIONS

MODEL NO.	A	B	C	RATING BTU/HR	WEIGHT LBS.
agroSchwank	$13\ 3/4''$	$25\ 3/4''$	$12''$	16,000	22

8.2 SUSPENSION HARDWARE (supplied by others)



8.3 MOUNTING DIAGRAM FOR PORK NURSERY HEATERS



8.4 HORIZONTAL CLEARANCES TO COMBUSTIBLES CHART

HEATER MODEL NO	TOP < A >	SIDE < B >	END < C >	BOTTOM < D >
agroSchwank N/L	24"	27"	24"	60"

8.5 ANGLE CLEARANCES TO COMBUSTIBLES CHART

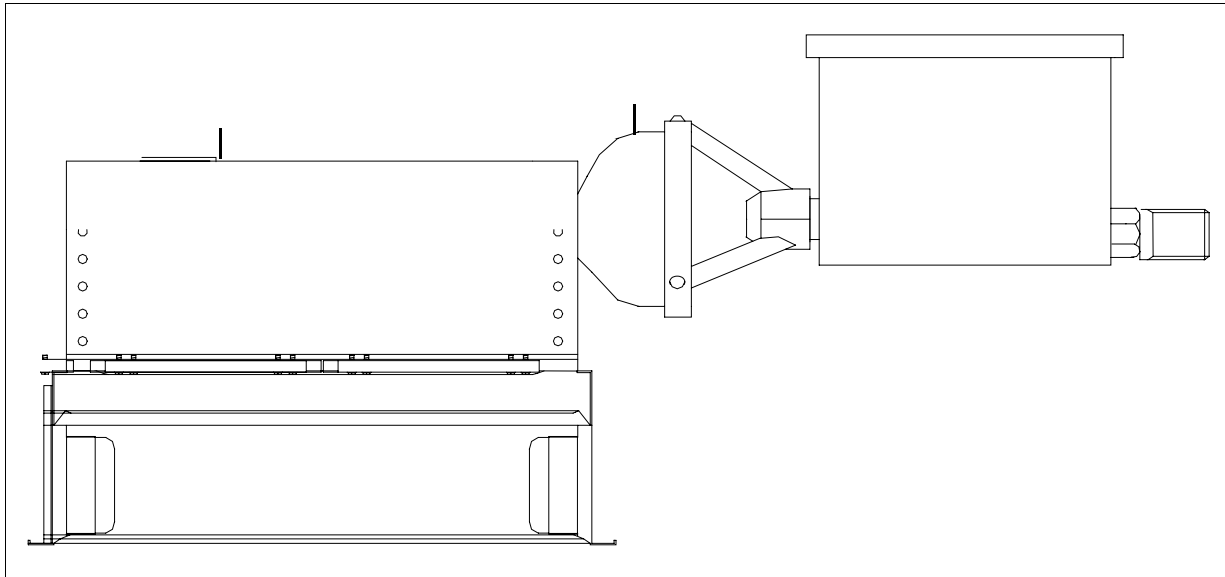
HEATER MODEL NO	TOP < A >	FRONT < E >	END < C >	BOTTOM < D >	REAR < F >
agroSchwank N/L	24"	60"	24"	60"	24"

8.6 SUGGESTED MOUNTING DISTANCE FOR COMFORT**

Since most installations will differ in many details, these instructions are general. Sound judgment must be exercised and careful supervision is essential to assure the installation will be made in the best manner possible for trouble-free operation and at minimal cost. All systems must be done in accordance with acceptable practices, local codes, and applicable standards. This heater is suitable for reflector mounting angles up to 45° along the short axis. Improper angle mounting can result in overheating of controls and combustible materials.

IMPORTANT: For either horizontal or angle mounting, the long axis of the heater must be level. Use only non-combustible mounting hardware.

NOTE: It is the responsibility of the installer to insure that the chosen suspension system will support at least 50 lbs.



Note: Reflector with venturi must be in upper position

MOUNTING HEIGHTS:

8.7 HORIZONTAL suggested mounting distance for comfort.*

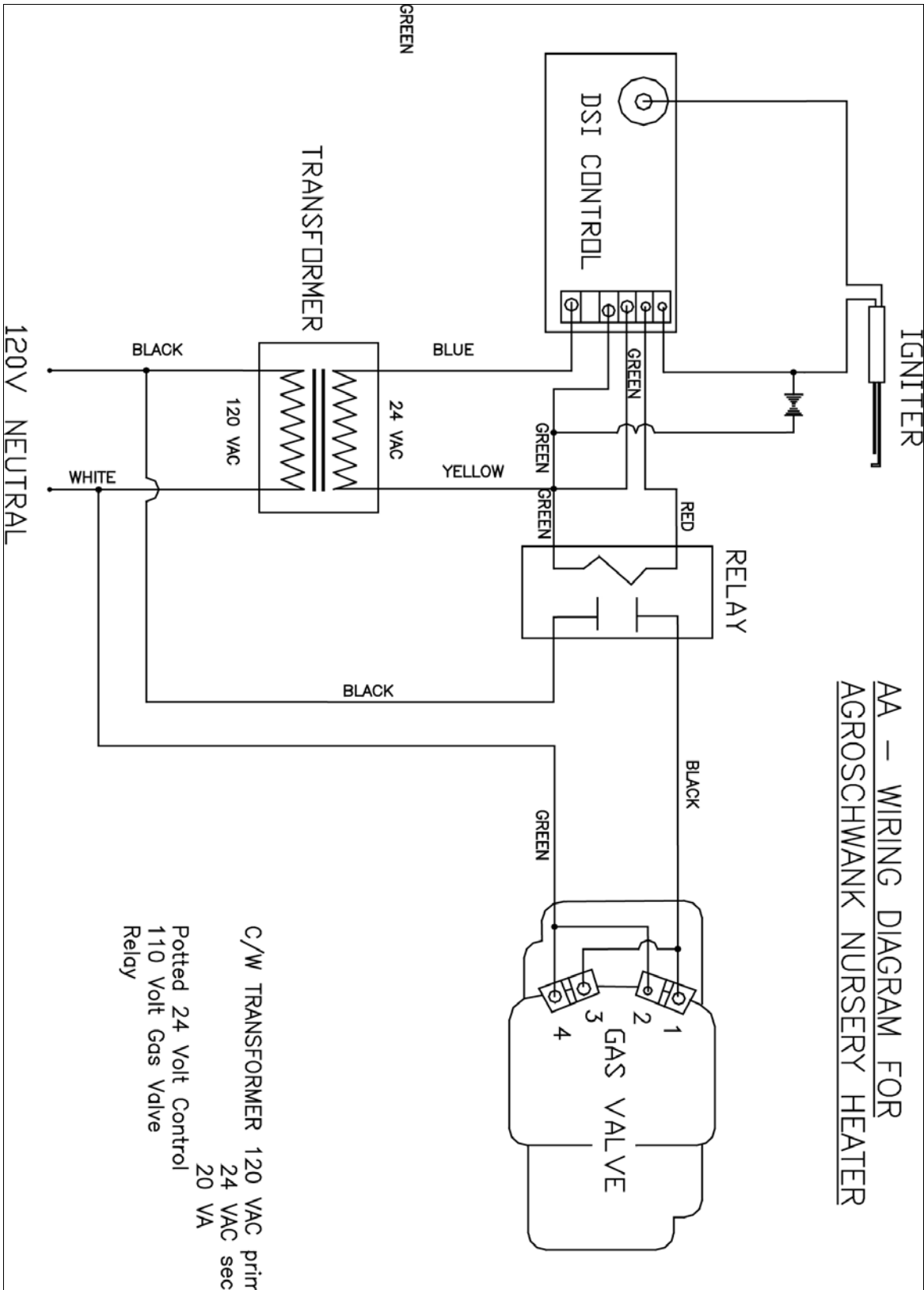
agroSchwank	
Distance to floor	6' to 9'

8.8 ANGLE suggested mounting distance for comfort.*

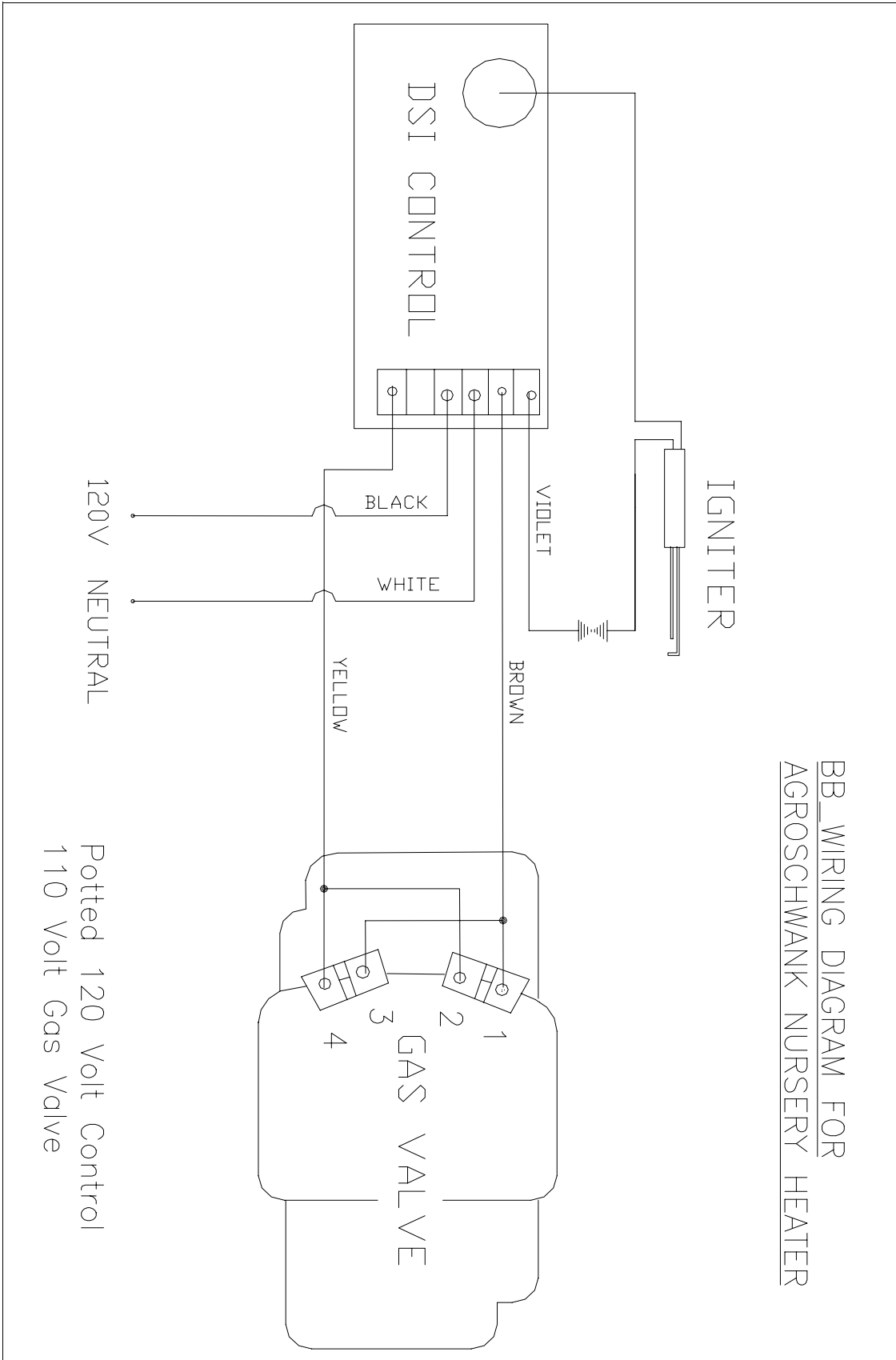
agroSchwank	
Distance to floor	4' to 8'

** These mounting distances are suggested, and are subject to on sight conditions. If in doubt, please contact your distributor.

8.9 AA - WIRING DIAGRAM FOR NURSERY HEATER



8.10 BB - WIRING DIAGRAM FOR NURSERY HEATER



9. OPTIONAL COMPONENTS

Moisture Proof Thermostat



JS-0570-XX

3/8" Female Quick Disconnect



JH-0591-FM

3/8" Male Quick Disconnect



JH-0591-ML

5 ft Hose c/w 3/8" Female Quick Disconnect

JB-0600-XX



LIMITED WARRANTY CERTIFICATE



GAS-FIRED INFRA-RED AGRICULTURAL: AGROSCHWANK / IN SERIES:

The Manufacturer warrants that this product is free from defects in material or workmanship under normal use and service subject to the terms of this document.

TWO YEAR WARRANTY

Subject to the conditions and limitations stated herein, during the term of this limited warranty, we will supply any component part (at our option a new or repaired component part) of the heater, as defined below, excluding any labor, which the Manufacturer's examination determines to be defective in workmanship or material for a period of two years (2 years) from the date of installation, unless otherwise specified below. This warranty applies to the heater's original owner, and subsequent transferees and only if the unit is installed and operated in accordance with the printed instructions accompanying the unit and in compliance with all applicable installation, building codes and good trade practices. Warranty is only applicable to Schwank components, other parts are limited to their own Manufacturers warranty. (1 year)

TWO YEAR WARRANTY

The Manufacturer warrants the Ceramic Tiles for a period of two years (2 years)

WHAT IS NOT COVERED

The Manufacturer shall not be responsible for any expenses, including service, labor, diagnosis, analysis, material or transportation charges incurred during removal or reinstallation of this product, or any of its components or parts. All labor or service charges shall be paid by the owner. This warranty does not cover heating products improperly installed, misused, exposed to or damaged by negligence, accident, corrosive or contaminating atmosphere, water, excessive thermal shock, impact, abrasion, normal wear due to use, alteration or operation contrary to the owner's manual or if the serial number has been altered, defaced or removed. This warranty shall not apply if the input to the heating product exceeds by more than 2% of the rated input on the rating plate. The Manufacturer shall not be liable for any default or delay in performance by its warranty caused by any contingency beyond its control, including war, government restrictions, or restraints, strikes, fire, flood, acts of God, or short or reduced supply of raw materials or products.

WARRANTY PROCEDURE

To establish the installation date for any purpose under this Limited Warranty, you must retain the original records that can establish the installation date of your unit. If you do not provide such documents, the start date of the term of this Limited Warranty will be based upon the date of unit manufacture, plus thirty (30) days. Failure to maintain the equipment through regular annual service maintenance by a qualified service technician shall void the warranty.

LIMITATIONS AND EXCLUSIONS

This document contains all warranties made by the Manufacturer and may not be varied, altered or extended by any person. There are no promises, or agreements extending from the Manufacture other than the statements contained herein. **THIS WARRANTY IS IN LIEU OF ALL WARRANTIES EXPRESSED OR IMPLIED, TO THE EXTENT AUTHORIZED BY THE LAWS OF THE JURISDICTION, INCLUDING SPECIFICALLY THE WARRANTIES OR MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE.**

It is understood and agreed that the Manufacturer's obligation hereunder is limited to repairing or replacing parts determined to be defective as stated above. In no event shall the Manufacturer be responsible for any alleged personal injuries or other special, incidental or consequential damages. As to property damages, contract, tort or other claim the Manufacturer's responsibility shall not exceed the purchase priced paid for the product.

All replacement parts will be warranted for the unused portion of the warranty coverage period remaining on the applicable unit.

Some Authorities do not allow certain warranty exclusions or limitations on how long a warranty lasts or the exclusions or limitations of incidental or consequential damages. In such cases, the above limitations or exclusions may not apply to you and are not intended to do so where prohibited by law. This warranty gives you specific legal rights. You may also have other rights which vary by each jurisdiction.

**5285 BRADCO BLVD. MISSISSAUGA, ON, L4W 2A6
2 SCHWANK WAY, WAYNESBORO, GEORGIA. 30830-8336**

**SCHWANK INC.
INFRASAVE INC.**

**Ph: 905-712-4766 Fax: 905-712-8336
Ph: 1-866- INFRASV (463 7278) Fax: 1-866-724 -9265**

GP-DAGR-BX-03A
agro / IN WARRANTY
AUGUST 2005
RL: 3
KH