

Braeburn®

FLOW THROUGH POWER HUMIDIFIER 18 GPD / 120V

220700 220750

INSTALLER: PLEASE LEAVE INSTALLATION INSTRUCTIONS WITH HOME OWNER

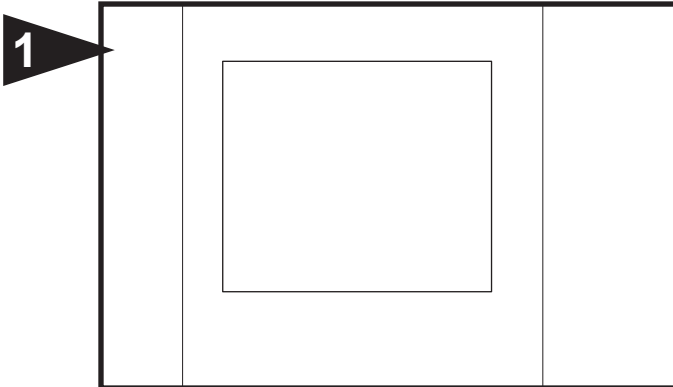
PRECAUTION: The installer should be an experienced service technician. Disconnect electrical power before beginning installation. Do not install where temperatures fall below 32 degrees F or where plenum temperatures exceed 200 degrees F. For maximum evaporative capacity, install this humidifier on the warm air supply plenum. When wiring into a multi-speed blower circuit see Figure 5B or 5D.

ADDITIONAL MATERIALS THAT MAY BE NECESSARY:

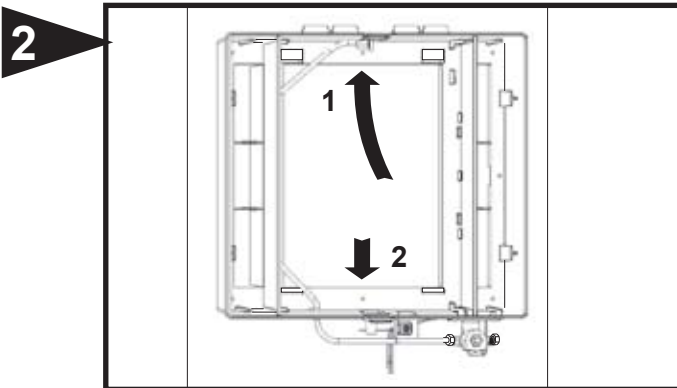
1. 1/4" diameter plastic supply tubing or 1/4" copper supply tubing for hot water applications
2. Current sensing relay (Braeburn Model 229051 suggested)

3. Junction box, 115 V. grounding outlet, cover and wire
4. 1/2" I.D. drain hose
5. #8 self piercing sheet metal screws

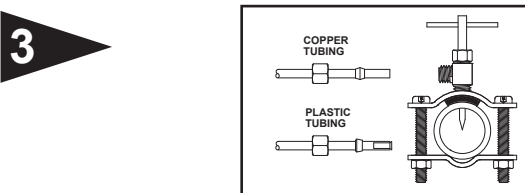
**FOR INSTALLATION ON A VERTICAL
SURFACE OF THE WARM AIR PLENUM
OF ANY FORCED AIR FURNACE**



Select location on vertical surface of warm air plenum for mounting humidifier. Tape mounting template in place making sure the template is level. Do not install humidifier where the blanked off ends of a cooling coil will restrict air flow to the humidifier. Cut out center section of template.



Open cover and remove evaporator pad assembly. Humidifier chassis is self retaining, slide top side in first then slide chassis down. Level chassis and install eight screws.



Mount the self tapping saddle valve on either a cold or a hot water pipe. A side or top mount is best to avoid clogging from pipe sediment. Connect 1/4" O.D. tubing to the saddle valve. Copper tubing requires a brass compression nut and brass sleeve. Plastic tubing requires a brass insert inside the tubing and a plastic sleeve on the outside with a brass compression nut.

NOTE: DO NOT USE PLASTIC TUBING ON HOT WATER OR IN CONTACT WITH ANY HOT PLENUM SURFACE OR DUCT. INSTALLATION OF THIS SADDLE VALVE MUST MEET OR EXCEED LOCAL CODES AND ORDINANCES.

SADDLE VALVE INSTALLATION INSTRUCTIONS

Copper Pipe

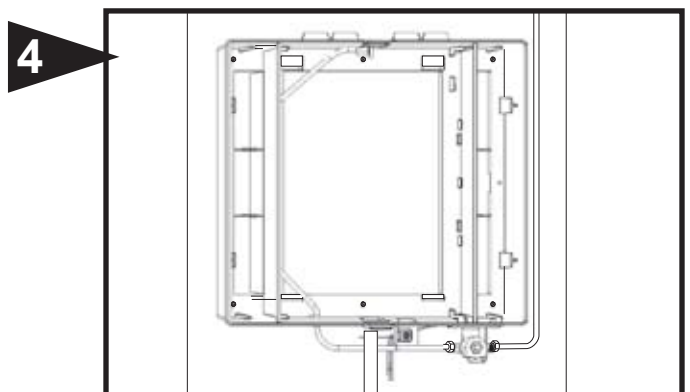
1. Retract piercing pin into valve body by turning handle counterclockwise.
2. Screw valve body into upper bracket and tighten.
3. Place rubber gasket over piercing pin.
4. Assemble saddle valve over copper pipe using enclosed screws, nuts and lower bracket.
5. Tighten screws evenly and firmly. Brackets should be parallel.
6. Complete compression connection to saddle valve outlet.
7. Turn handle clockwise to pierce tubing and close saddle valve.
8. Turn handle counterclockwise to open saddle valve. Leave open for several seconds to flush dirt from pipe and tubing.

Steel, Brass or Hard Plastic Pipe

1. Shut off water supply and drain pipe.
2. Turn handle clockwise to expose piercing pin and close saddle valve.
3. Place rubber gasket over piercing pin.
4. Drill 1/8" hole in pipe using a hand crank drill to avoid shock hazard.
5. Assemble saddle valve over steel, brass or hard plastic pipe using enclosed screws, nuts and lower bracket.
6. Tighten screws evenly and firmly. Brackets should be parallel.
7. Complete compression connection to saddle valve outlet.
8. Turn handle counterclockwise to open saddle valve. Leave open for several seconds to flush dirt from pipe and tubing.

Threaded Pipe Fittings

1. Turn handle clockwise to expose piercing pin and close saddle valve.
2. Seal valve body threads using pipe tape or sealant.
3. Install valve into 1/8" NPT fitting.
4. Complete compression connection to saddle valve outlet.
5. Turn handle counterclockwise to open saddle valve. Leave open for several seconds to flush dirt from pipe and tubing.



Connect 1/4" water supply tube to inlet of solenoid. **DO NOT USE PLASTIC TUBING IN CONTACT WITH ANY HOT PLENUM SURFACE OR DUCT. IF USING PLASTIC TUBING, USE INSERT FOR PLASTIC TUBING AND PLASTIC COMPRESSION SLEEVE (INCLUDED WITH SADDLE VALVE KIT).**

Connect drain hose to 1/2" spout on humidifier cabinet using hose clamp if necessary. Run 1/2" hose to suitable drain such as floor drain, sewer or laundry sink. Be sure hose has continuous slope and is not kinked at any point.

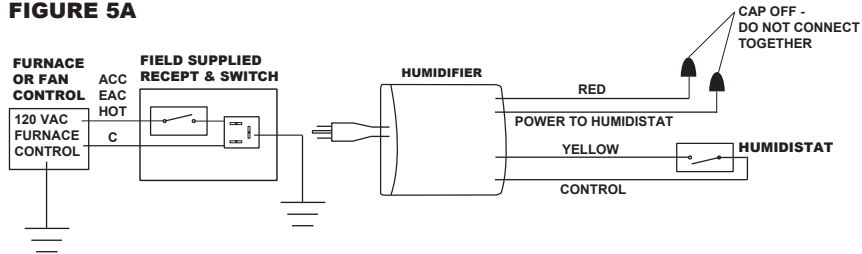
INSTRUCTIONS FOR WIRING HUMIDIFIER

NOTE: ALL WIRING SHOULD COMPLY WITH LOCAL ELECTRICAL CODES.

MANUAL HUMIDISTAT 120 VAC WITH CONTROL FROM FURNACE BOARD

On furnaces with output terminals ACC, or EAC check output voltage to determine that terminals are 115V. Connect on-off switch in series with the hot wire.

FIGURE 5A



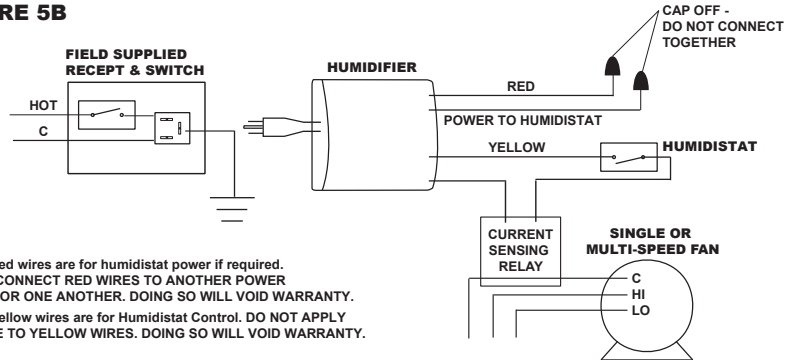
NOTE: Red wires are for humidistat power if required. DO NOT CONNECT RED WIRES TO ANOTHER POWER SOURCE OR ONE ANOTHER. DOING SO WILL VOID WARRANTY.

NOTE: Yellow wires are for Humidistat Control. DO NOT APPLY VOLTAGE TO YELLOW WIRES. DOING SO WILL VOID WARRANTY.

MANUAL HUMIDISTAT 120 VAC WITH CURRENT SENSING RELAY

On furnaces where it is desirable to use a current sensing relay, the humidifier may be wired from a continuous 115 volt power source. Install the on/off switch in series with the hot or black wire. Install the Braeburn® 229050 Current Sensing Relay in series with the humidistat circuit. The Current Sensing Relay will detect furnace operation and supply power to the humidifier accordingly.

FIGURE 5B



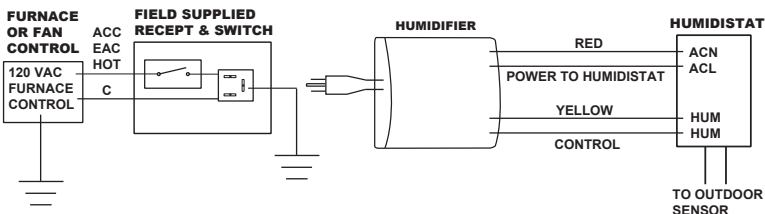
NOTE: Red wires are for humidistat power if required. DO NOT CONNECT RED WIRES TO ANOTHER POWER SOURCE OR ONE ANOTHER. DOING SO WILL VOID WARRANTY.

NOTE: Yellow wires are for Humidistat Control. DO NOT APPLY VOLTAGE TO YELLOW WIRES. DOING SO WILL VOID WARRANTY.

DIGITAL HUMIDISTAT 120 VAC WITH CONTROL FROM FURNACE BOARD

On furnaces with output terminals ACC, or EAC check output voltage to determine that terminals are 115V. Connect on-off switch in series with the hot wire.

FIGURE 5C



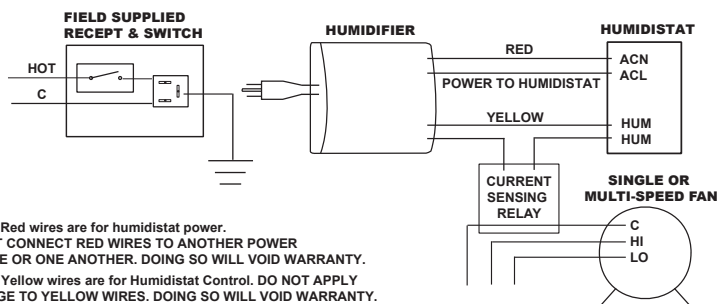
NOTE: Red wires are for humidistat power. DO NOT CONNECT RED WIRES TO ANOTHER POWER SOURCE OR ONE ANOTHER. DOING SO WILL VOID WARRANTY.

NOTE: Yellow wires are for Humidistat Control. DO NOT APPLY VOLTAGE TO YELLOW WIRES. DOING SO WILL VOID WARRANTY.

DIGITAL HUMIDISTAT 120 VAC WITH CURRENT SENSING RELAY

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FIGURE 5D



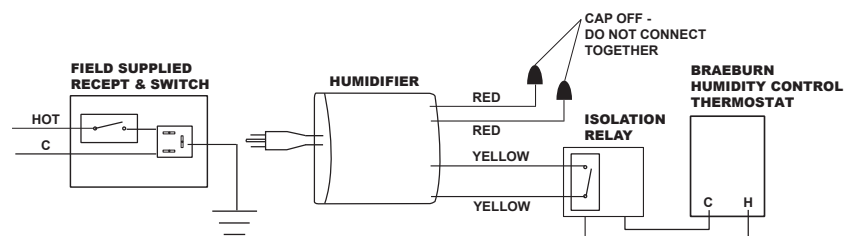
NOTE: Red wires are for humidistat power. DO NOT CONNECT RED WIRES TO ANOTHER POWER SOURCE OR ONE ANOTHER. DOING SO WILL VOID WARRANTY.

NOTE: Yellow wires are for Humidistat Control. DO NOT APPLY VOLTAGE TO YELLOW WIRES. DOING SO WILL VOID WARRANTY.

BRAEBURN® HUMIDITY CONTROL THERMOSTAT

On systems where it is desirable to control humidity levels in the conditioned space, a Braeburn humidity controlling thermostat may be used. Install a 24 VAC 1 Amp minimum isolation relay as shown in Figure 5E.

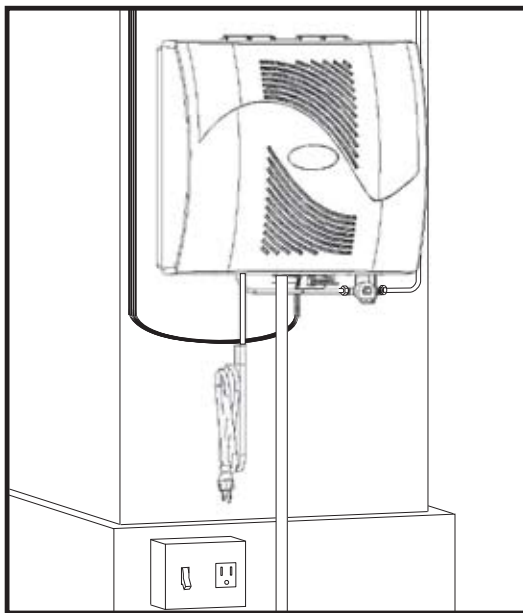
FIGURE 5E



NOTE: Red wires must be capped off. DO NOT CONNECT TOGETHER. DOING SO WILL VOID WARRANTY.

NOTE: Yellow wires are for Humidistat Control. DO NOT APPLY VOLTAGE TO YELLOW WIRES. DOING SO WILL VOID WARRANTY.

6



Replace evaporator pad assembly and humidifier cover. Insert low voltage six connector wiring harness from cover into chassis solenoid harness.

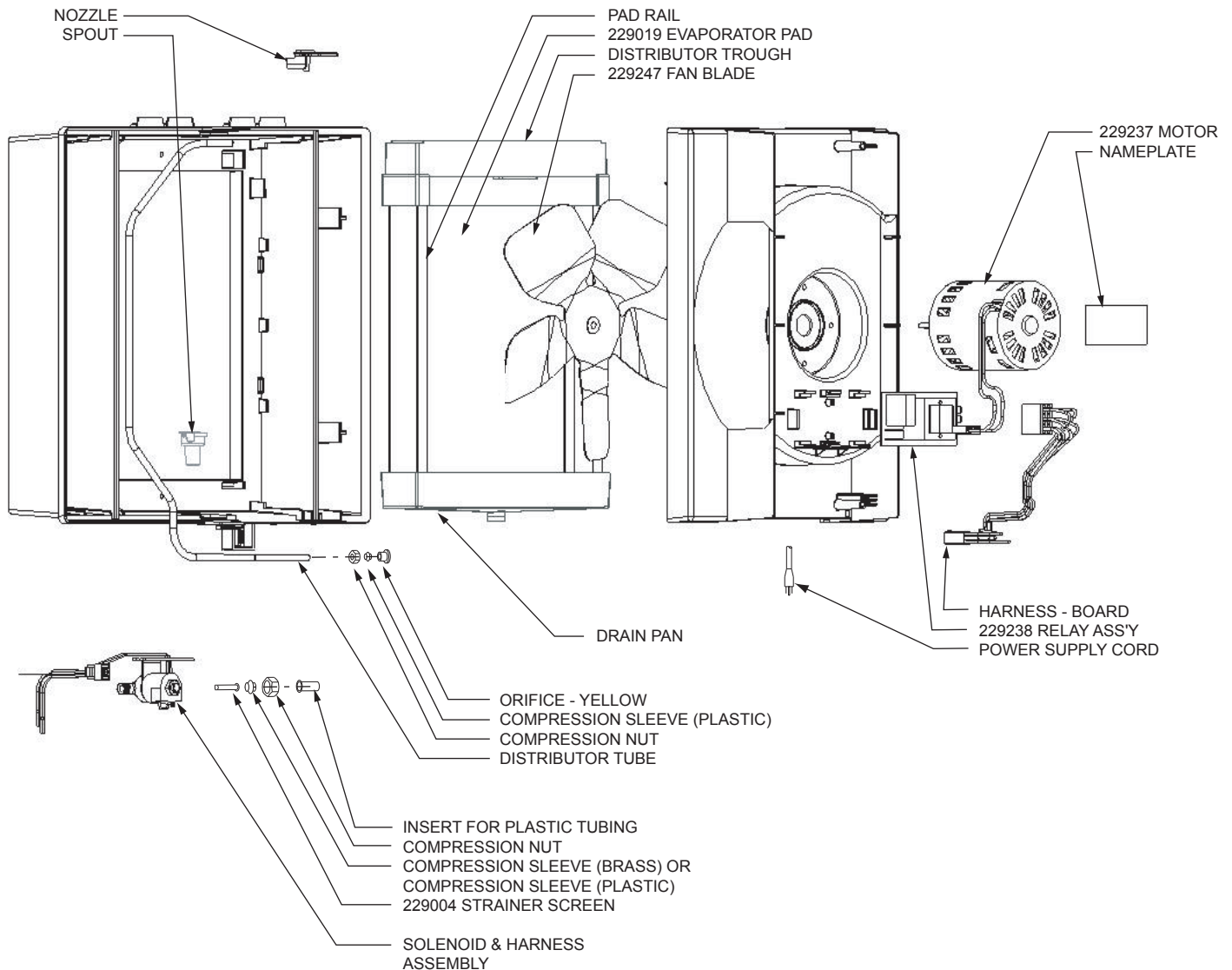
CIRCUIT DESCRIPTION

The humidifier is connected to the 120 volt AC circuit through a control relay. The secondary coil of an isolation transformer, a diode and resistor supply 24 volts for the control circuit which also includes the humidistat and relay coil. When the control circuit is completed by the humidistat, the relay closes, supplying 120 volts to the fan motor and 24 volts to the solenoid valve.

7

Turn on water supply and plug in power cord to check operation of humidifier. Set humidistat to a demand setting. With the furnace off, the solenoid valve should be closed and the humidifier fan not running. Start the furnace, the solenoid valve should open and the humidifier fan run when the blower or burner circuit is energized. Check flow of water through distributor trough and evaporator pad. The standard yellow orifice will supply approximately 3.5 GPH of water at a line water pressure of 60 psi. Leave humidistat set at the recommended setting.

PARTS LIST FOR HUMIDIFIER



CARE AND MAINTENANCE

Your Humidifier is engineered to give helpful and trouble-free humidification. For maximum efficiency the following cleaning procedures should be carried out at the end of each heating season:

1. Turn off water supply and electrical power to humidifier.
2. Remove cover, water distributor trough, evaporator pad, pad rails and drain pan. Clean excessive mineral deposits from the distributor trough, drain pan, pad rails and humidifier cabinet. A solution of 1/2 vinegar & 1/2 water will help loosen mineral deposits. Inspect drain hose, clean or replace as necessary.
3. If the evaporator pad has excessive mineral deposits, replace with a new evaporator pad (229019). Install trough, pad rails and drain pan. Replace cover, reconnect electrical plug.
4. In heavy mineral areas or if the solenoid valve fails to function disconnect the 1/4" water supply line from the solenoid valve. Carefully pull the strainer screen (229004) from the valve body. Clean the mineral deposits from all parts. If the orifice is clogged, it may be opened by inserting a small pin. Reinsert the filter into the valve body.
5. Reconnect the 1/4" water line to the solenoid valve if necessary. Turn on the water supply and check all points for leakage. The operation of the unit may be checked by starting the furnace. The humidifier operates only when the furnace blower is running or the burner circuit is energized. The humidifier is now ready for operation.
6. During the summer, turn off water supply and electrical power to humidifier.

AT OUTSIDE TEMPERATURE		RECOMMENDED SETTING
40°F	4°C	45%
30°F	-1°C	40%
20°F	-7°C	35%
10°F	-12°C	30%
0°F	-18°C	25%
-10°F	-23°C	20%
-20°F	-29°C	15%

HOW THE HUMIDIFIER WORKS

The operating principle of the humidifier is based on an efficient and economical means of evaporating water to the air. The heat necessary for evaporating water is produced by the furnace.

The water supply to the humidifier is controlled by the electric solenoid valve. The solenoid valve and humidifier fan are controlled by a humidistat connected through an isolation relay. The humidistat is designed for wall mounting in the living area or surface mounting on the return air duct.

ELECTRICAL RATING: 24 VAC/ 60 Hz.

DO NOT SET RELATIVE HUMIDITY TOO HIGH DURING COLD WEATHER. EXCESSIVE HUMIDITY MAY CAUSE CONDENSATION ON WINDOWS OR IN WALLS. REFER TO RECOMMENDED SETTINGS AS DESCRIBED IN THE HUMIDISTAT OWNERS MANUAL.

Water flows through a strainer, is metered through an orifice to provide the proper amount of water, and is supplied to the evaporator pad by the distributor trough. Air from the warm air plenum is pulled through the wetted evaporator pad by the humidifier fan and returned to the warm air plenum to be circulated through the living area. Moisture is evaporated to the air passing through the evaporator pad.

Minerals are not blown into the air stream as occurs in atomizing humidifiers; they are left on the evaporator pad where a high percentage is carried off with the waste water.

When the humidifier is installed and operating, no adjustments are necessary other than setting the control knob on the humidistat to the desired level of humidification.

To turn the humidifier off, close water supply valve, switch electrical power off and turn humidistat off.

LIMITED WARRANTY

Braeburn Systems LLC warrants each new Braeburn humidifier against any defects that are due to faulty material or workmanship for a period of five years after the original date of purchase by a professional service technician. This warranty and our liability does not include damage to merchandise or the humidifier resulting from accident, alteration, neglect, misuse, improper installation or any other failure to follow Braeburn installation and operating instructions.

Braeburn Systems LLC agrees to repair or replace at its option any Braeburn humidifier under warranty provided it is returned postage prepaid to our warranty facility in a padded carton within the warranty period, with proof of the original date of purchase and a brief description of the malfunction. This limited warranty does not include the cost of removal or re-installation.

This warranty gives you specific legal rights and you may also have other rights that vary from state to state or province to province. Answers to any questions regarding our limited warranty may be obtained by writing our corporate offices.

WARRANTY FACILITY: Braeburn Systems LLC
Attn: Warranty Department
2215 Cornell Avenue
Montgomery, IL 60538



Braeburn

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630-844-1968 (Outside the U.S.)