nu-air

Sustainability Through Innovation

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WINDSOR SERIES

OPERATING, MAINTAINING & INSTALLING YOUR HEAT RECOVERY VENTILATOR

FOR MODELS NU075, NU145, NU175, NU160, NU165, NU205

* LEAVE THIS DOCUMENT WITH THE HOMEOWNER

Specifications, dimensions and ratings may change without notice as a result of ongoing product development and improvements.

Rev. December 19, 2008

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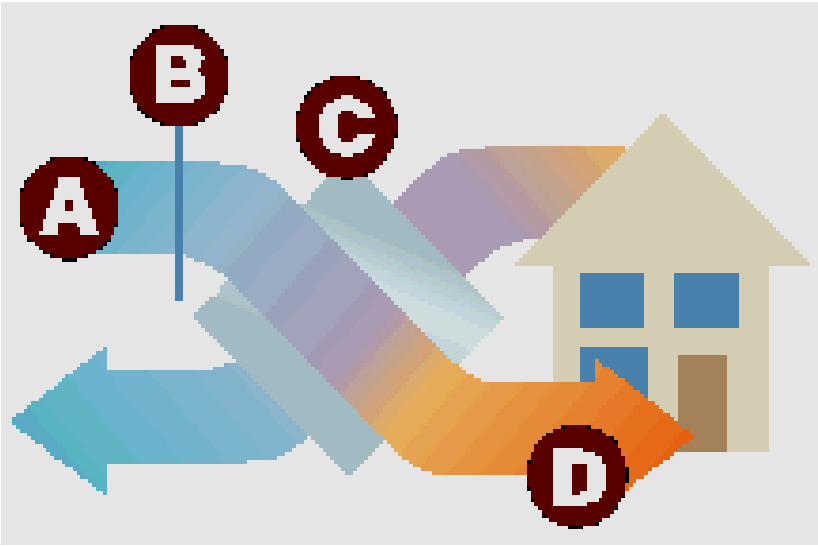
1. HOW THE NU-AIR SYSTEM WORKS



A. Powerful, centrifugal blowers bring fresh air into your home while an equal amount of stale, humid air is exhausted to the outside. This is **NU-AIR**'s balanced central ventilation system.
B. Incoming fresh air is filtered before flowing through the heat exchange core.
C. Stale, humid air flows through the cross-flow heat exchanger and transfers the heat to the incoming fresh air.
D. Warm fresh air is distributed to each room of the house through an independent ductwork system.

2. INSTALLATION

2.1. Installer's Responsibilities

Installers are responsible for the performance of the ventilation system and for ensuring that all codes and standards are met.

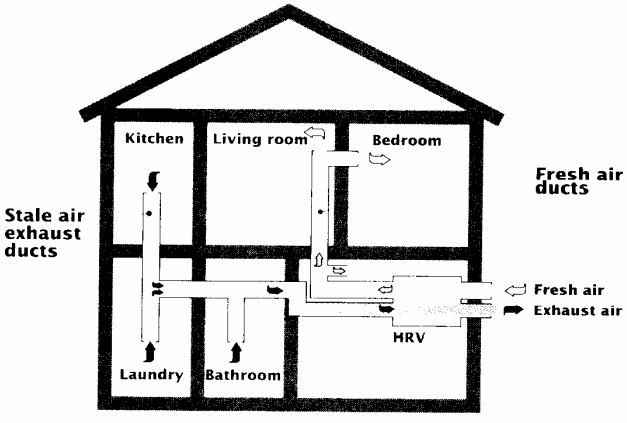
- Do not mount the fresh air supply near a source of contaminated air such as automotive exhaust, gas or propane exhaust or oil tanks.
- Do not hook a dryer exhaust to an HRV.
- Combustion appliances such as furnaces and hot water heaters must not draw combustion air directly from an HRV.
- Do not connect a range hood to any part of this system.
- Do not install in attics or other unconditioned spaces (min. 16º C).
- Do not install in enclosed garages.

2.2. Installation System Options

Before installing your HRV, please read these instructions for correct installation. The **Nu-Air** HRV is a self-contained system that is ready to be installed.

There are **three** commonly used and approved methods of installation.

An HRV with direct ductwork



2.2.1. The Fully Ducted System

This system uses an independent duct system for supply and exhaust air. The HRV is controlled independently of all other equipment.
The best results are achieved when:

- Each room of the space is serviced with a vent mounted in the ceiling or high on an interior wall (within 12" of the ceiling).
- Vents are located deep within a room, where they will not short circuit or create an uncomfortable draft.

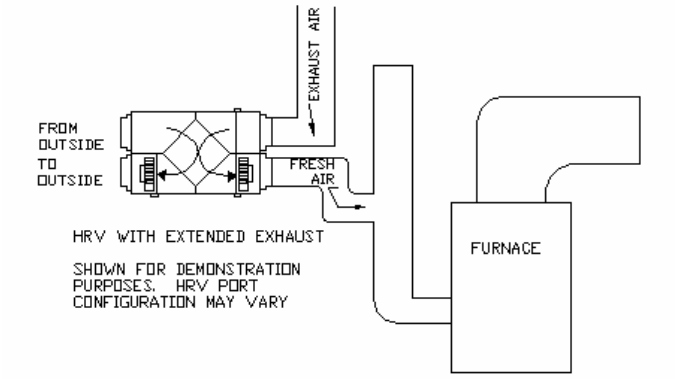
Areas typically serviced by Exhaust Air: Laundry Rooms, Kitchens, Bathrooms, other wet rooms.

> **Note**. *Kitchen exhaust grills should be equipped with a grease filter and must be located at least 3 ft. horizontally in all directions from the surface of the range extended to the ceiling.*

Areas typically serviced by Fresh Air: Bedrooms, Living Rooms, Dining Areas, and Recreation Areas.

2.2.2. The Extended Exhaust System

This system uses the HRV in conjunction with a forced air furnace distribution system. In this system the HRV supply air to the house is introduced into the return duct of the forced air furnace. Separate, additional ductwork is used to transfer stale air from the wet rooms to the HRV.



2.2.2.1. Extended System, Continuous Ventilation

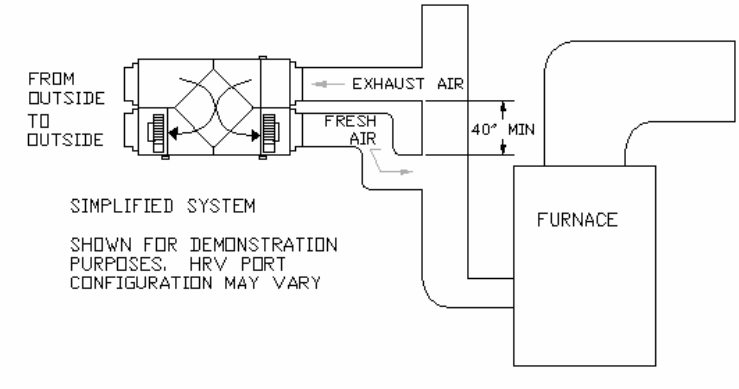
The furnace fan may not need to run continuously with this system. Check local code requirements. For improved supply air distribution during continuous ventilation mode, the furnace may be interlocked to the HRV. See Section 3.9

2.2.2.2. Extended System, Intermittent Ventilation

If the HRV is operated intermittently, the furnace fan should be interlocked with the HRV for good distribution of supply air during high-speed ventilation conditions.

2.2.3 The Simplified System

This system uses the furnace's return duct for both supply air distribution and exhaust air collection. The exhaust air connection must be a minimum of 40 inches upstream of the supply air connection to avoid short-circuiting of the fresh air.



2.2.3.1. Simplified System - Continuous Ventilation & Intermittent Operation

For proper supply air distribution with this system, and to prevent short circuiting in the return air duct, the furnace fan must run during ventilation mode. Interlock the furnace and HRV in accordance with Section 3.9.

NOTES:
1) When selecting an installation option, consideration should be given to the increased electrical consumption of the furnace fan.
2) The HRV fresh air supply duct to the return air plenum shall be connected at a sufficient distance upstream of the plenum connection to the furnace. This allows proper mixing and ensures appropriate air temperature at the furnace heat exchanger in cold weather. For fuel-fired mid and high efficiency furnaces a minimum temperature of 15.5º C (60º F) is recommended at the heat exchanger. (Check the furnace manufacturer's specifications).

2.2.4 Installation Supplies, Standard Issue Items:

The HRV comes equipped with:

- Filters
- Anti-Vibration Straps
- Heat Recovery Core
- Drain Hose Assembly
- Connections for timers, remote controls, furnace interlock
- Balancing Dampers

2.2.5. Control Options (sold separately)

- Windsor mechanical control (WIN-1)
- Windsor 20 minute timers -up to 6 each system (WIN-20)
- Internal d-stat kit (DSTATK01) all models except NU160.

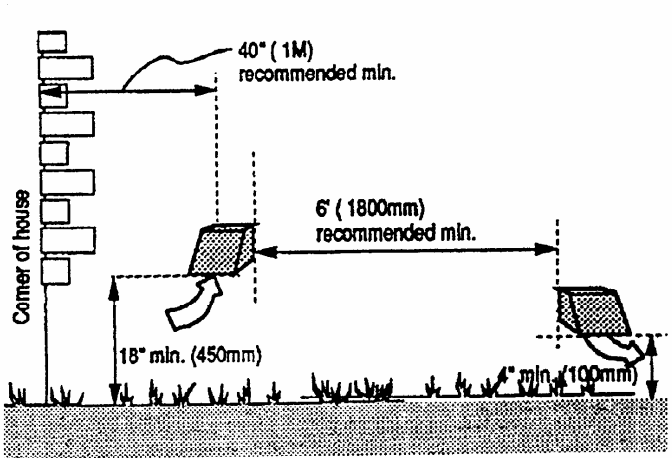
2.3. Ducting to The Outside

Between the weather hoods and the HRV you must use fully insulated ducting with an integrated **vapour** barrier. Insulated ducting with an integrated **vapour** barrier must also be used on all runs passing through unheated areas. This will avoid condensation problems and energy losses.

The minimum RSI value of insulation should equal that of the local building codes.

2.3.1. Weather Hood Installation

1. Insulated flex duct slides over the galvanized sleeve of the weather hood.
2. Use sheathing tape (red) to join the inner duct to the hood's sleeve.
3. Tape the **vapour** barrier to back of the hood without compressing the insulation. Caulk or foam seal around the collars and hoods to eliminate air and water leaks.
4. Locate the hoods for easy access to the bird screen for cleaning purposes.



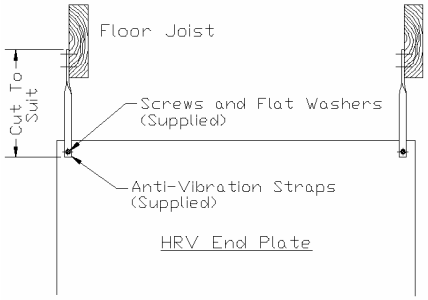
Make the insulated duct that connects the weather hoods to the HRV as short as possible to minimize airflow restrictions. Avoid sharp bends and stretch out the inner lining of the flex duct as much as possible to reduce static pressure and maximize airflow. For runs over 12', increasing flex diameter 1" to next size up will reduce pressure drop in the duct.

2.3.1.1. Locating the Weather Hoods

There should be a minimum of 6' (feet) of separation between the fresh air and exhaust hoods. Supply hoods should be a minimum of 18" (inches) above the ground level. Exhaust hoods should be at least 4 "(inches) above the ground level. Holes through the wall should be 1" larger than the collar on the hood. Fresh air hoods must be 3' away from any other appliance exhaust vent or furnace vent.

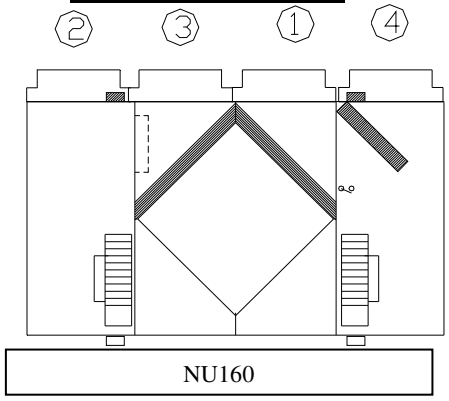
In addition ASHRAE Standard 62-99 recommends the following. Ventilation systems should be designed to prevent the reintroduction of exhaust contaminants, condensation or freeze-ups and growth of microorganisms. Make-up air inlets and exhaust air outlets shall be located to avoid contamination of the makeup air. Contaminants from sources such as cooling towers, sanitary vents, vehicular exhaust, and street traffic should be avoided.

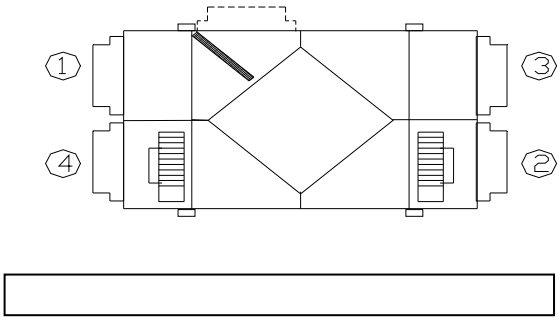
2.4. Mounting & Noise Control

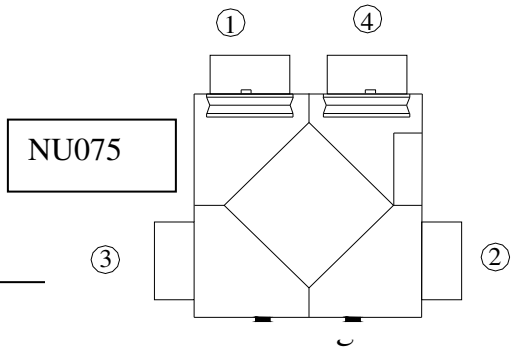


For maximum efficiency, the HRV should be installed in a heated area. The HRV is designed to be hung from the ceiling by way of the anti-vibration straps supplied. Avoid hanging the HRV directly below a bedroom or other quiet area.

2.5. Port Configurations







1. FROM OUTSIDE - Insulated flex pipe
2. TO SPACE - Non insulated pipe
3. FROM SPACE - Non insulated pipe
4. TO OUTSIDE - Insulated flex pipe

Connecting To Other Equipment - Residential Applications

Your **Nu-Air** HRV is not intended to be connected to other equipment or appliances. Interconnection with a forced air furnace duct system is permissible; refer to sections 2.2.2 through 2.2.3.1 and section 3.9.

2.6. Ductwork

Duct runs should be straight with a minimum of bends and elbows. Joints should be tight fitting and sealed with duct tape or duct sealer. Install the two balancing dampers (supplied) in the supply air and return air ducts close to the unit and 12" from an elbow or flow collar.

RECOMMENDATION: *Use galvanized duct whenever possible. Although flexible duct can be used, its use should be restricted to areas indicated (outside hoods and unheated spaces).*

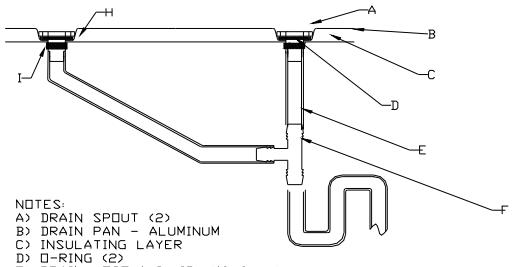
Ducting must be supported according to the manufacturers specified hanger system and intervals.

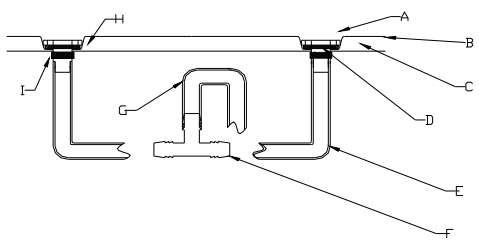
RECOMMENDATION: An engineer or other qualified person should design the duct system.

2.7. Drain Connections

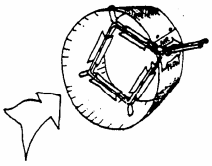
Access to a drain or sump is required to handle the HRV condensate. Care should be taken to run the condensate tube where it cannot freeze.
For best results, **Nu-Air** recommends the following steps be followed when installing drain kits on residential HRV's.

1. Apply the O-ring supplied to the flange of each drain spout (A)
2. Insert the drain spouts through the holes in the drain pan (B)
3. Use the speed nut to tightly secure the drain spout
4. Cut two lengths of drain hose (E) long enough to avoid kinking
5. Attach the hose to the drain spout by sliding it over the spout until it is tight to the bottom of the speed nut. Repeat for the other side
6. Secure the hose to the spout with the plastic tie wraps (D)
7. Install the Tee (F) in either of the two ways shown in the drawings below
8. Attach the free end of the hose to the left fitting. Repeat for the other side
9. Use the remaining hose to form a "P" trap and terminate at the top of the tee
10. Pour approximately one cup of water into the drain assembly to form an air seal. This prevents gasses from being drawn into the HRV

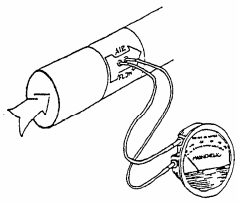




2.8. Balancing the System

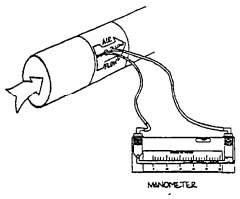


Balanced air flow between the supply and exhaust air streams is essential to the performance of an HRV. The equipment we recommend for balancing your system is easy to use, reliable and one of the most cost efficient flow balancing, measuring systems available.



Once the HRV system is installed and the vapour barrier is completed, ensure the following:

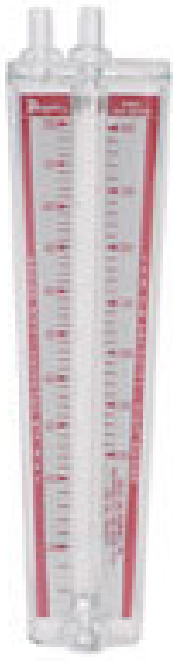
- Close all windows, doors and fireplace dampers
- Turn off any exhaust systems such as dryers, range hoods, bath fans and central vacuums.
- The forced air furnaces should operate at continuous low speed.
- Use set-screws to **lock both balancing dampers to the fully open position.**



To balance the HRV, you will need a device to measure air flow. It is recommended to use either a magnehelic gauge or an air meter, both of which are available from Nu-Air. Depending on the device you are using, follow one of the two procedures below:

Magnehelic Gauge:

1. Disengage one end of the exhaust flexible duct connector in the main duct before any branch ducts and push the duct back into itself. Insert the flow grid and tape the joint between the flow grid and ductwork.
2. Set the HRV on high speed. Mount the magnehelic gauge level and plumb. Join the hoses from the flow grid to the magnehelic gauge. The needle of the magnehelic gauge should read positively. Switch hose connections if the needle falls below zero.
3. Ensure again that the balancing dampers are fully open. Record reading from gauge. Repeat the procedure for the supply duct.
4. Go back to the duct with the higher reading and adjust the balancing damper until the supply air is equal to the exhaust air reading.



Air meter:

1. Drill a ¼" hole in both the supply and exhaust ducts on the warm-side of the machine at least 12" away from the HRV and any elbows, tees, etc.
2. Set the HRV on high speed and ensure once again that both balancing dampers are set in the fully open position with a set-screw.
3. Take a pressure reading in each duct and record the results.
4. Go back to the duct having the higher reading, and damper the airflow down until the pressure reads to within 10% of the other air flow.
5. Use tape to reseal the holes.
6. To convert pressure readings to airflow (cfm or L/s) refer to the instructions and table included with the air meter.

For residential applications you should have a minimum ventilation capacity of 10 cfm (5 L/s) per room. The chart that accompanies the flow grid calibrates pressure readings to airflow.

Refer to ASHRAE Standard 62 for acceptable ventilation rates in commercial buildings.

Calculating TVC (Total ventilation Capacity) for Residential Applications:

- *20 cfm for the master bedroom*
- *20 cfm for an unfinished basement*
- *10 cfm for each other room in the house*

Add these together to arrive at your TVC.
This method is called the "Room Count Method" and is part of CSA F326 (Residential Mechanical Ventilation Systems). 0.3 air change per hour is no longer used.

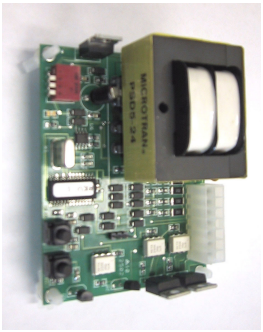
Air meter available from Nu-Air wholesalers. (Part #100460)
Balance the HRV in less than five minutes.

3. CONTROLS

Your machine is equipped for remote controls. Options include humidity sensing, off-on control, intermittent & continuous modes, as well as high speed control from the dehumidistat or timer(s). You can also interlock the furnace blower to the HRV (optional on NU075). Various means of controlling the system are described below.

3.1. Features:

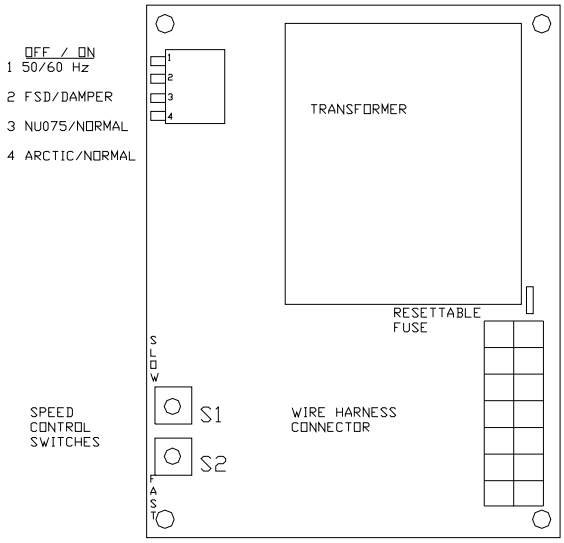
- Powerful transformer – up to six (6) WIN-20 Timers can be connected in parallel
- Field selectable defrost cycle for northern applications
- Self-resetting fuse to protect the board against mis-wiring
- Variable low speed control – HRV low speed can be adjusted between a minimum of 40% and a maximum of 70% of high speed. See below for explanation.
- Optional setting for 220V/50Hz geographic areas



The following sections outline the features and explain the board in greater detail. In most applications, the factory settings for speed control, defrost, electrical service and fan/motor type will never need to be changed. A qualified technician must do any service work done within the electrical panel of the HRV.

DIP Switches:
An array of four (4) two position switches are located at the top left corner of the board. The "On" position for each switch is labeled and corresponds to down (i.e. towards the board surface). The "Off" position is up or away from the board surface. The switches are labeled 1-4 and their settings determine the following conditions.

1 Frequency Setting - Set to ON (down) for 60 Hz service. This includes all of North America. Set to OFF (up), for electrical grids using 50 Hz.



#2 Defrost Type - ON (down) is for damper/recirc. models. OFF (up) is for fan shut down defrost models.

#3 Fan Selector - OFF (up) is for the NU075 machine only. All other models are set to ON (down).

#4 Arctic Mode Selector - for design temperatures of -30 0C (-22 F) and colder for Damper/recirc. defrost machines, or design temperatures of –20 0C (-4 F) and colder for FSD defrost machines, set to Off (up). Otherwise set to ON (down). When the machine is set to operate in arctic mode, the machine will increase the amount of time spent in defrost.

Variable low-speed motor control:
For field adjustment of the low (continuous) ventilation rate, pushbutton switches S1 & S2 are used. These are located on the bottom left of the board. S1 is labeled DEC (decrease) and S2 is labeled INC (increase). Each push of S1 or S2 decreases or increases low speed by increments of 3%. Low speed is set at 40% of high speed in the factory by default and cannot be lowered beyond this point. The maximum low speed setting is approximately 70% of high speed. Settings are stored in the board's memory, eliminating the need to reset the speed after a power failure for instance.

Self-resetting fuse:
Field mis-wiring of timers or dehumidistats may cause the fuse to trip. If this happens, remove the control wires and allow the fuse to reset. This may take a few minutes. Check your manual for proper wiring connections.

Troubleshooting using the PCB light:
There is a small green light on the board located just below the DIP switches. This light will either be solid or pulsing and is an indicator of machine status. It can be used to assist in troubleshooting.

Machine State	Light Status
Machine has no power	Off
Power to the board, but main power switch is off or the door switch is tripped	Two short pulses approximately every 5 seconds
Machine running normally in low speed	Pulsing – on for one second, off for one second
Machine running in high speed due to a call from dehumidistat, timer, or defrost cycle	Solid

Defrost Cycles:
Fan Shutdown Defrost – On FSD machines, the temperature sensor is located in the fresh air stream before the core. When this air is measured to be below freezing, a timed defrost cycle is initiated. The fresh air fan motor is stopped for 4 minutes (both normal and arctic modes). The exhaust fan motor continues to operate, drawing warm air from the building through the core. After 4 minutes, the fresh air fan motor is started again and runs for 20 (normal mode) or 12 (arctic mode) minutes. This cycle is repeated until the temperature of the exhaust air stream is measured to be above freezing.

Damper Defrost – On damper/recirc. models, the temperature sensor is located in the fresh air stream before the core. When the outdoor air temperature is measured to be below freezing, a timed defrost cycle is initiated. The machine runs normally for 36 (normal mode) or 20 (arctic mode) minutes and then

shuts off the fresh air by closing a damper for 4 (normal mode) or 5 (arctic mode) minutes. This timed cycle repeats until the temperature of the outdoor air is measured to be above 0 C. Note: When the machine has power but is not turned on the damper automatically closes off the fresh air port to prevent unwanted drafts while the machine is not in operation.

Change from previous board-versions: When in defrost mode, the fans operate in high-speed. A call from the timer now lasts 20 minutes total, even if the machine is in defrost (previous versions would wait until defrost was complete and then resume the timer).

3.2. Machine ON/OFF Switch

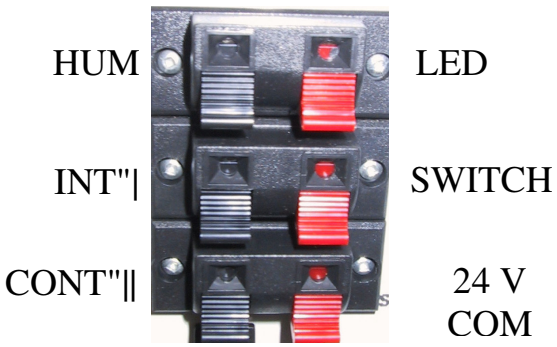
Switch to the ON position " | " to enable operation of the HRV.

3.3. Standard Dehumidistat & Internal Dehumidistat

With these basic controls the system is designed to operate on a low speed for continuous ventilation with intermittent high speed for moisture or air quality control. The dehumidistat will switch the HRV to high speed when the relative humidity of the air around it exceeds its set point. When the humidity falls below the set point, the machine drops out of high speed.

3.4 Standard Dehumidistat (Part # DSTAT-1)

Connection may be made at points "HUM" & "24 V COM" to automatically control humidity. For continuous operation (low/high) use the factory installed jumper wire between CONT"||" & COM. For intermittent operation (off/high) reposition the jumper wire between INT "|" and COM. **Two-conductor wire is needed.**



3.5 Internal Dehumidistat Kit (Part # DSTATK01)

Field Installed: NU075, NU145, NU165, NU175, NU205

Windsor series HRV's are pre-wired for internal dehumidistat control kit DSTATK01. Two wires with spade terminals are located in the *Exhaust Air From Building* quadrant. Connect these to the dehumidistat. No remote wiring is needed. For continuous operation (low/high) use a wire between CONT"||" & COM. For intermittent operation (off/high) use a jumper wire between INT "|" and COM.

3.6. Windsor Control (Part # WIN-1)

The Windsor Dehumidistat Control incorporates a **3-position switch** from which the operator can select three operating modes.

1. OFF - disables all functions.
2. STANDBY - HRV is on stand-by(intermittent). High speed ventilation on demand from the dehumidistat, or remote timers. i.e. Auto-Off
3. CONTINUOUS - continuous low speed ventilation. HRV cycles to high speed on demand from the dehumidistat or timers.

The two position switch:

Constant - locks the motors in High speed
Standard – normal operating mode enables functions 2 and 3 above.

Wires from the control are colour coded as follows: black/HUM, green/INT"l", yellow/CONT"ll", red/24V COM. Remove factory installed jumper wire at CONT"ll" and 24 V COM. **Four-conductor wire is used.**

3.7. Windsor Timer (WIN-20)

Install in bathrooms, kitchens, workstations or other locations where high-speed ventilation control is needed. The machine will run at high speed for twenty (20) minutes and then return to its normal operating condition.

Up to six (6) timers can be connected in series or parallel. Match terminals on back of switch to terminals on HRV. "SWITCH", "LED" and "24 V COM". When engaged, the HRV will run in high speed for twenty minutes. **Three-conductor wire is needed.**

3.8 Spring Wound Timers

Connect to "HUM" and "24 V COM" using **two-conductor wire.** To select between continuous low speed operation or intermittent high speed when no other control is being used, use a jumper wire connection as described in 3.3 above.

3.9 Remote On/Off Switching

Basic RNC type control can be achieved using a standard light switch. Add a jumper to 24 V COM and CONT for continuous low speed. For manually switched high speed, connect a switch between HUM and 24 V COM.

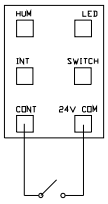


FIGURE 1
MANUALLY SWITCHED LOW SPEED

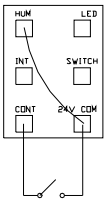


FIGURE 2
MANUALLY SWITCHED HIGH SPEED

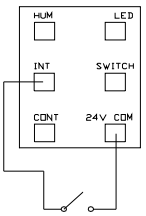


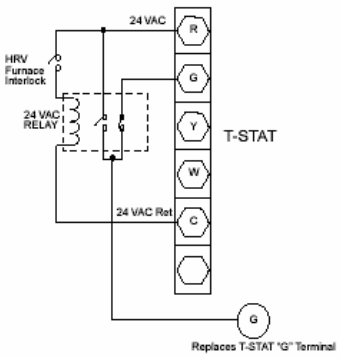
FIGURE 3

Remote On/Off Switching With Internal Dehumidistat
For continuous low with automatic humidity control, connect the on/off switch to "CONT" and "24V COM". Figure 1.
For intermittent high speed based on automatic humidity sensing, connect to "INT" and "24V COM". Figure 3

3.10 Furnace Interlock (optional for NU075, consult factory)

To interlock the furnace blower with the HRV, supply 24 V in and out from the furnace controls R & G lines to HRV terminals labeled R&G.

NOTE - For a furnace connected to a cooling system:
When using the built-in furnace interlock relay on the HRV in conjunction with certain older mercury bulb thermostats, energizing the R and G terminals will also cause 24 volts to be sent through the Y terminal which will initiate the outdoor condenser. If this is the case, there are two possible solutions. Either upgrade the thermostat to a digital type which does not have Y connected to G internally, or install the isolation relay as shown in the wiring diagram at right.



24 VAC Relay interface to HRV Furnace Interlock for mercury thermostats.

4. Arctic Defrost Mode

A field selectable Arctic Defrost Mode is available on all models and should be used for temperatures below -20 ^{0}C (-4 F) for fan shutdown defrost models and areas with temperatures reaching below -30 ^{0}C (-22 ^{0}F) for damper defrost or recirculation models. Consult **Nu-Air Ventilation Systems Inc.** or your nearest wholesaler for more information.

IN (R) OUT (G)
FURNACE INTERLOCK

5. START-UP

- Ensure the controls are connected in accordance with Section 3.
- For electrical hook-up, plug into a 120 volt receptacle.
- Ensure that the machine is piped to an adequate drainage source, i.e. through the drain hose supplied.

6. OPERATING HINTS

Set the **dehumidistat** at the desired level. Look for signs of excessive humidity or dryness. *Let your windows be your guide*. As outdoor temperatures decrease – the comfortable humidity level also decreases.

- Winter Operation – 40% - 50% is recommended. Lower settings may be necessary in colder zones to keep windows free of condensation.
- Spring/Fall Operation- 50% - 60% is recommended
- Summer Operation – On extremely humid days it is best not to run the HRV during the day. At night turn the machine on high speed using the dehumidistat. This will help keep your home cool and your basement fresh. In the morning, turn the machine off again. The normal summer setting is 55% - 75%. Alternatively plug the HRV into an electrical timer set to switch on/off at desired intervals.

7. MAINTENANCE

CAUTION: *Disconnect power before servicing.*

7.1. **Filters:**

Dirty filters can reduce ventilation efficiency, result in unbalanced airflow and damage or shorten the life of the motors. Clean every three months. Polyester filters should be replaced annually. Permanent electrostatic filters are available from your **Nu-Air** dealer. Filters remove easily by opening the front cover.

7.2. **Fans:**

When cleaning the filters, take the opportunity to vacuum any interior surfaces including the fan blades. No other service is required as these fans are designed to operate continuously without lubrication.

7.3. **Condensate Drain:**

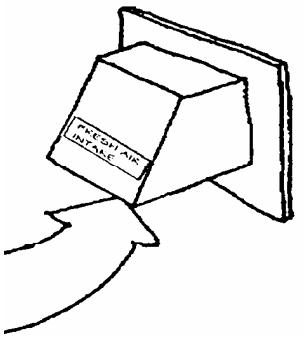
Twice per year wipe clean the condensate drain pan. Check the condensate drain and tubing to ensure they are free flowing. The tubing must have an "S" or loop that traps a quantity of water to prevent air from entering the HRV via this tubing.

7.4. **Core:**

The core (located behind the cover) should be removed and cleaned at least once a year, using a mild detergent in cold water (i.e. Arctic Power). To remove the cover of the machine, unlatch the two latches; slide the door to right to release from hinges.

7.5. **Exterior Hoods:**

Regularly check the outside vents and clean any obstructions such as grass, leaves or other debris. Do not replace the screen with mesh smaller than 1/4" as this will restrict airflow. During winter operation, ensure snow and frost does not build up and restrict or block openings.



7.6. **Grills & Duct Work:**

Clean the grills when they are dusty or greasy with soap and water. Check for punctures in the insulation jacket on the fresh air and exhaust air ducts. Repair any punctures using foil tape.

8. ANNUAL SERVICING:

Your HRV should undergo annual general servicing by an accredited contractor. This servicing should include the following:

a) The six maintenance items above.
b) A general check for proper operation. Controls and electrical connections should be inspected.
c) Verification that intake and exhaust air flows are properly balanced.
d) Re-balancing as necessary.

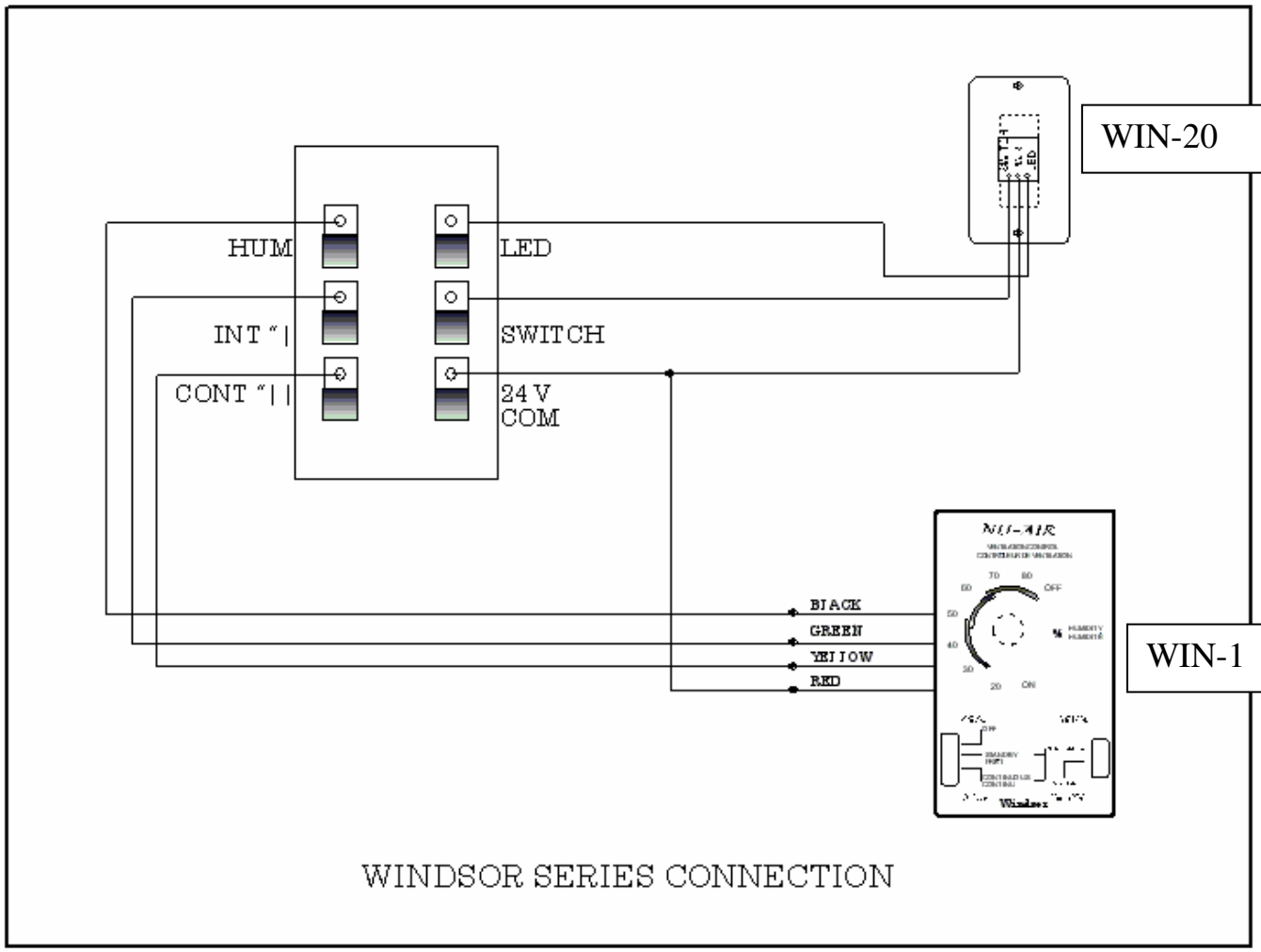
9. TROUBLE SHOOTING:

SYMPTOM	EXPLANATION	ANSWER
Humidity levels too low.	• HRV air flows incorrectly balanced. • Dehumidistat control set too low. • Lifestyle of the resident(s).	• Balance Air Flow(s). • Increase Dehumidistat. • Humidifiers may need to be added.
Humidity levels too high.	• HRV air flows incorrectly balanced. • HRV not properly sized for the application • High humidity areas not ventilated properly. • Lifestyle of resident(s). • Dehumidistat is not working.	• Balance airflow. • Set dehumidistat. • Cover pools etc. when not in use. • Avoid hanging clothes to dry, storing wood and venting clothes dryer inside.
House dry/basement wet.	• High humidity during summer months	• Install a programmable timer on 12-hour cycle. On at night. Off during the day. • Partially close some grills upstairs, open grills in basement.
Dehumidistat is not working.	• Incorrect connection of outside low voltage wiring between HRV and Dehumidistat.	• Check control wiring for short • Check wall switch for correct connection. • Check wires are connected to proper terminals at the HRV
Frosting up of HRV and/or Duct(s).	• HRV air flows incorrectly balanced. • HRV defrost system is not working.	• Balance HRV. • Install back draft dampers. • Check defrost system. • Note minimal frost build up is expected on cores before unit initiates defrost cycle function.
Supply air feels cool.	• HRV air flows incorrectly balanced. • Improper location of supply grills. • Extremely cold outside temperatures. • Moving air feels cooler than it actually is.	• Balance HRV. • Locate grills high on walls or in ceiling. • If supply air is installed into return line of furnace, furnace fan must run continuously on low speed.
Outside duct has ice build up or condensation.	• Improperly installed vapour barrier around insulated duct.	• Tape all joints. • Ensure that vapour barrier is completely sealed and insulated.
Water in the bottom of HRV.	• Drain pans are plugged. • Incorrect connections of HRV's drain lines. • HRV is not level. • Drain lines plugged. • HRV heat exchange core improperly installed.	• Look for kinks in the line. • Check water drain connections. • Ensure that water drains from pan.
Poor air flow(s)	• HRV airflow incorrectly balanced. • Filters need to be cleaned. • Mesh on outside hoods needs to be cleaned. • Grills are closed. • Inline dampers are closed. • Low power supply. • Wrong-size ducting. • Under-sized HRV. • HRV is not working.	• Tape all joints. • Use proper air flow measuring equipment. • Open grills. • Remove obstructions in duct(s), hoods(s), and grill(s). • Balance air flows. • Clean filter. • Have a professional look at the system.

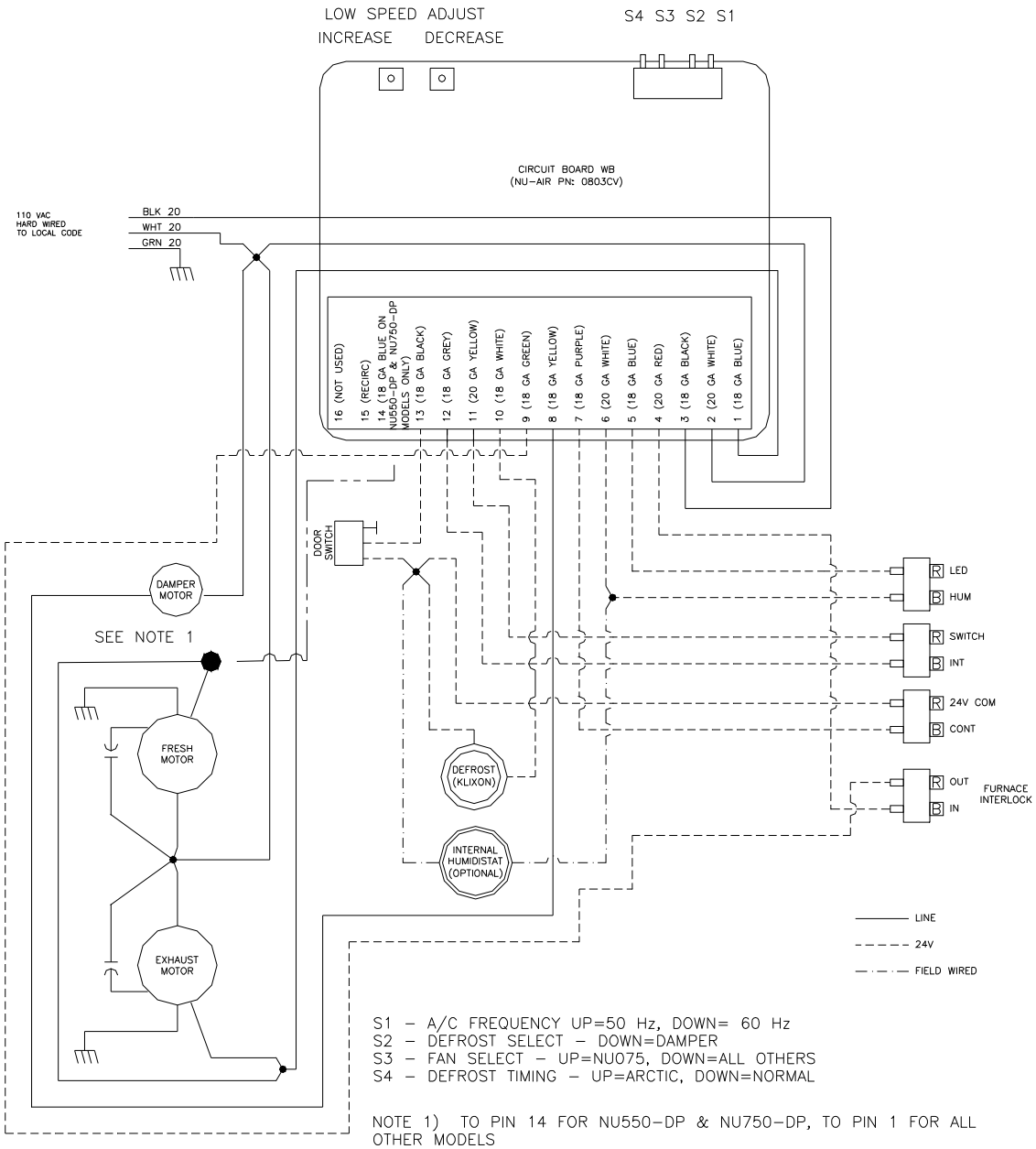
IMPORTANT!
QUALIFIED TECHNICIANS SHOULD DO ALL OTHER SERVICING.

10.ELECTRICAL SCHEMATICS

10.1. WINDSOR Wall Controls Wiring Diagram:



10.2. Damper Defrost and Re-circulation Defrost



11.WARRANTIES

Your *NU-AIR* Windsor Heat Recovery Ventilator Transferable Warranty
For Canada and United States

Should your **NU-AIR** Windsor Heat Recovery Ventilator (HRV) cease to function within five (5) years for models NU075, NU145, NU160, NU165, NU175, NU205 of the date of original purchase (effective April 17,2005) due to defective material or workmanship of the product, **NU-AIR** Ventilation Systems Inc. will supply a new or rebuilt part FOB Factory to replace the defective part. Delivery, installation, and labour cost would be your responsibility.

Lifetime HRV Core Warranty

If the plastic core in your **NU-AIR** Heat Recovery Ventilator fails due to a defect in material or workmanship **NU-AIR** Ventilation Systems Inc. will supply a new core FOB Factory to replace the defective part. Delivery and labour costs are your responsibility.

Nu-Air warrants its ERV core to be free from manufacturing defects for a period of one year.

Warranty Limitations

The above warranty does not cover damage to the unit while in your possession (other than damages caused by defective parts or material) due to the following: 1) improper installation or unreasonable use of unit: 2) failure to provide reasonable and necessary maintenance. If the unit is put to commercial use or application other than residential use, warranty is for a period of one (1) year.

nu-air
Sustainability Through Innovation

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Email: nuair@nu-airventilation.com
Website: www.nu-airventilation.com

IMPORTANT

READ AND FILL OUT REGISTRATION CARD IMMEDIATELY

THIS IS YOUR WARRANTY REGISTRATION CARD

In order to properly validate your warranty, you must fill out and return this card. Failure to register unit will require you to present proof of purchase should the unit require service.

This information provides us the means of proving the date you purchased the product and also enables us to notify you in the unlikely event of a service notification or recall of the product.

IMPORTANT

LISEZ ET REMPLISSEZ CETTE CARTE D'INSCRIPTION IMMÉDIATEMENT

VOICI VOTRE CARTE D'INSCRIPTION DE LA GARANTIE

Afin de valider votre garantie, vous devez remplir et renvoyer cette carte. A défaut d'inscrire votre produit, vous devrez présenter une prevue de la date d'achat si le produit nécessite des réparations.

Les renseignements ci-joints nous fourniront la prevue de votre date d'achat du produit et nous permettront également de communiquer avec vous si, pour une raison fortuite, nous devoins vous faire parvenir un avis de réparation ou de rappel du produit.

PRODUCT WARRANTY REGISTRATION

CARTE D'INSCRIPTION DE LA GARANTIE DE VOTRE PRODUIT

FIRST NAME
NOM DU PRÉNOM _____ LAST NAME
NOM DE FAMILLE_____

ADDRESS
ADRESSE _____

CITY
VILLE _____

PROVINCE
PROVINCE _____ POSTAL CODE
CODE POSTAL _____ DATE PURCHASED
DATE D'ACHAT _____
MO/MOIS DAY/JOUR YEAR/AN

TELEPHONE
TÉLÉPHONE (_____) _____

DEALER'S NAME
NOM DU VENDEUR _____

MODEL NUMBER
NO. DU MODÈLE _____

SERIAL NUMBER
NO. DE SÉRIE _____

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