

VENTILATORS

505,036M
01/2005

HEALTHY CLIMATE® HRV and ERV

HOMEOWNERS MANUAL & DEALER INSTALLATION INSTRUCTIONS FOR HEALTHY CLIMATE® HEAT RECOVERY VENTILATOR (HRV) AND ENERGY RECOVERY VENTILATOR (ERV)

Shipping and Packing List

Package 1 of 1 contains:

- 1 - Assembled ventilator
- 1 - Bag assembly containing:
 - 2 - Drain spout assemblies (*HRV units only*)
 - 4 - Hanging straps
 - 1 - Installation manual
 - 1 - Wall-mounted remote control

Required Tools

Installation Tools

- tin snips
- assorted screw drivers
- electric drill
- hammer
- wire strippers
- knife
- caulking gun
- smoke pencil
- large zip ties (*pg. 6*)
- fabric flexible duct - class II rated (*pg. 6*)
- mastic tape (*pg. 7*)
- alum. foil duct tape (*pg. 7*)
- low voltage control wire
- zip ties (*pg. 8*)
- 1/2" I.D. drain hose (*pg. 8*)

Balancing Tools

- Pitot Tube Balancing Kit [Case, 8 ft. vinyl tubing, Pitot tube, magnehelic gauge (0 - 0.25"), and mounting plate] (*pg. 21*).....56N82
- magnehelic gauge (0 - 0.25") only79P83
- or*
- Pitot Tube with instructions72X52 and Digital Manometer (with resolution of 0 - 0.25" - must read to 1/100ths of an inch)86N62

Optional Accessories

- 20 Minute Fan Timer (*pg. 2,3*)89N18
- Wall Mounted Dehumidistat (*pg. 2,3*)27N53
- Weather hood Kit (*pg. 2,3*)95P07
- Round Diffuser (*pg. 8*)
 - 4" (100mm)72N59
 - 6" (150mm)72N60
 - 8" (200mm)72N65
- Kitchen Grille
 - *may be required by code for kitchen applications*
 - *contains removable grease filter (pg. 8)*18N48
 - 6" (150mm) Balancing Damper (*pg. 2,3*)91X09

Application

The Healthy Climate® Heat Recovery Ventilator (HRV) and Energy Recovery Ventilator (ERV) are designed to provide fresh air while exhausting an equal amount of stale air. Refer to application map on page 4.

The HRV is equipped with an aluminum core. The device uses the stale air that is being exhausted to condition the fresh air as it is being brought in.

The ERV is equipped with an enthalpic paper core. This device is designed for use in warm, humid climates with heavy air conditioning loads. The ERV transfers both sensible (temperature) and latent (moisture) heat from incoming fresh air to the stale air as it is being exhausted; thus, reducing the air conditioning load. The ERV is not suitable for use in climates where the temperature drops below 25°F (-4°C) for more than 5 days continuously.

General

These instructions are intended as a general guide and do not supersede local codes in any way. Consult authorities who have jurisdiction before installation.

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LEAVE THIS HOMEOWNER'S MANUAL AND DEALER INSTALLATION INSTRUCTIONS FOR THE HOMEOWNER

NOTE: Due to ongoing research and product development, specifications, ratings and dimensions are subject to change without notice.

LNX-27-AH
1204

THERMALLY CONDUCTIVE, PATENTED ALUMINUM CORE

The cross-flow heat recovery core transfers heat between the two air streams. It is easily removed for cleaning or service.

MOTORS AND BLOWERS

Each air stream has one centrifugal blower driven by a common PSC motor. High speed - 120 VAC.

FILTERS - Washable air filters in exhaust and supply air streams.

MOUNTING THE HRV - Four threaded inserts at corners of case designed to accept four PVC reinforced polyester straps that are supplied with the unit.

DEFROST - Damper defrost system; defrosts automatically as the outdoor temperature falls.

CASE - Twenty gauge prepainted galvanized steel (G60) for superior corrosion resistance. Insulated to prevent exterior condensation. Drain connections two - 1/2" (12mm) OD.

WEIGHT 58 lbs. **SHIPPING WEIGHT** 78 lbs.

Performance

Net supply air flow in cfm (L/s) against external static pressure

E.S.P <i>(external static pressure)</i>	150 <i>[cfm (L/s)]</i>	200 <i>[cfm (L/s)]</i>
@ 0.1" (25 Pa)	177 (83)	214 (101)
@ 0.2" (50 Pa)	164 (77)	206 (97)
@ 0.3" (75 Pa)	156 (73)	193 (91)
@ 0.4" (100 Pa)	143 (67)	184 (87)
@ 0.5" (125 Pa)	123 (58)	170 (80)
Max.Sensible Effectiveness 32°F (0°C) outdoor air 72°F (22°C) 40% RH indoor air	76%	67%
Test Parameters	68cfm (32L/s)	127cfm (60L/s)
Sensible Effectiveness 32°F (0°C)	76%	67%
*Sensible Efficiency 32°F (0°C)	66%	60%
*Sensible Efficiency -13°F (-25°C)	60%	59%
**Latent Efficiency 95°F (35°C)	0%	0%
Total Efficiency 95°F (35°C)	20%	20%
VAC @ 60HZ	120	120
WATTS / High @.3" W.C.	173	182
WATTS / Low @.3" W.C.	63	70

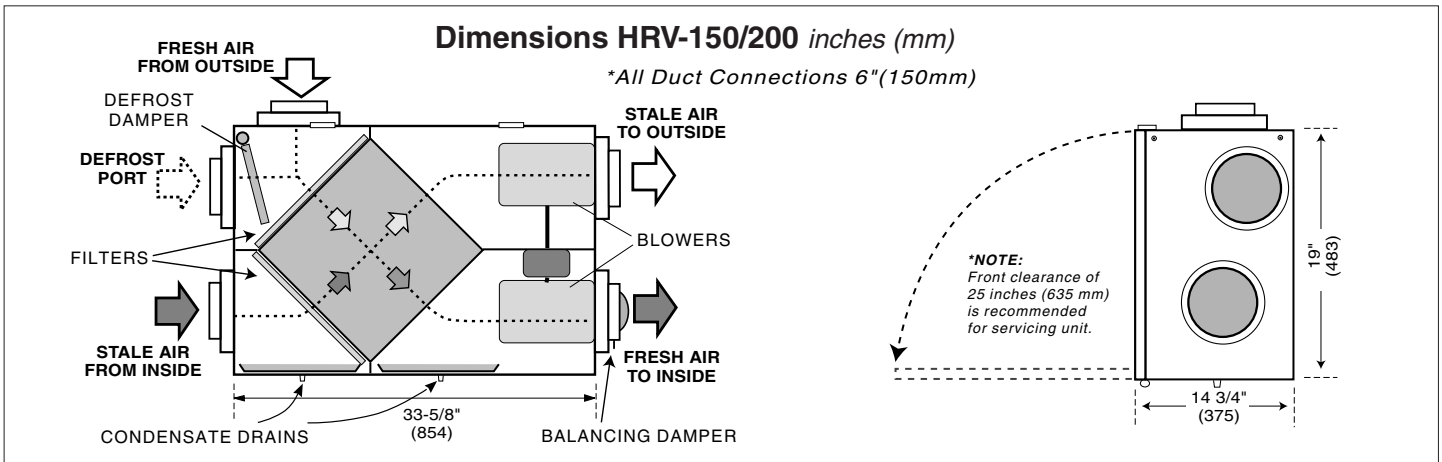
*Sensible Efficiency - thermal

**Latent Efficiency - moisture

Note: Effectiveness - based on temp. differential between the 2 airstreams
Efficiency - includes parasitic losses from fan and defrosting

Dimensions HRV-150/200 inches (mm)

*All Duct Connections 6"(150mm)



CONTROLS

72X53 HRV System Control

HRV System Control

HRV defaults to LOW SPEED when plugged in. HIGH SPEED option is accessible by connecting remote controls to designated terminals inside electrical box of HRV.

Standard LOW SPEED SETTING can be increased by manipulating switches in electrical box. OFF(Standby)/LOW or OFF/HIGH speed operation also available by manipulating switches.

OPTIONAL ACCESSORIES

- 89N18 20 Minute Fan Timer
(3 wire) 20 gauge wire (min.) 100' length (max.)
- 72X52 Pitot Tube (for air balancing)
- 95P07 Weather Hoods, 2 - 6" (150mm) c/w 1/4" (6mm) screen
- 91X09 Balancing Damper, 6" (150mm)

All units conform to CSA and UL standards.

DATE: _____

PROJECT: _____

MECHANICAL CONTRACTOR: _____

LATENT RECOVERY/MOISTURE TRANSFER CORE

The cross-flow energy recovery core transfers heat and water vapor between the two airstreams. It is easily removed for cleaning or service.

MOTORS AND BLOWERS - Each air stream has one centrifugal blower driven by a common PSC motor. High speed - 120 VAC.

FILTERS - Washable air filters in exhaust and supply air streams.

MOUNTING THE ERV - Four threaded inserts at corners of case designed to accept four PVC reinforced polyester straps that are supplied with the unit.

CASE - Twenty gauge prepainted galvanized steel (G60) for superior corrosion resistance. Insulated to prevent exterior condensation.

WEIGHT 58 lbs. **SHIPPING WEIGHT** 78 lbs.

Performance

Net supply air flow in cfm (L/s) against external static pressure

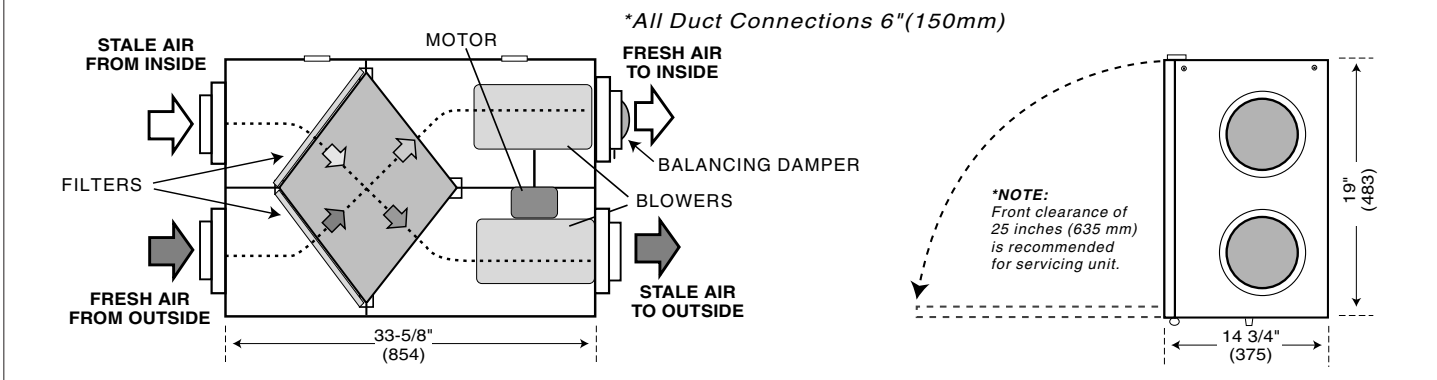
E.S.P (external static pressure)	150 [cfm (L/s)]	200 [cfm (L/s)]
@ 0.1" (25 Pa)	177 (83)	214 (101)
@ 0.2" (50 Pa)	164 (77)	206 (97)
@ 0.3" (75 Pa)	156 (73)	193 (91)
@ 0.4" (100 Pa)	143 (67)	184 (87)
@ 0.5" (125 Pa)	123 (58)	170 (80)
Max.Sensible Effectiveness 32°F (0°C) outdoor air 72°F (22°C) 40% RH indoor air	76%	67%
Test Parameters	58cfm (32L/s)	127cfm (60L/s)
Sensible Effectiveness 32°F (0°C)	76%	67%
*Sensible Efficiency 32°F (0°C)	66%	60%
**Latent Efficiency 95°F (35°C)	27%	27%
Total Efficiency 95°F (35°C)	50%	50%
VAC @ 60HZ	120	120
WATTS / High @ .3" W.C.	173	182
WATTS / Low @ .3" W.C.	63	70

*Sensible Efficiency - thermal

**Latent Efficiency - moisture

Note: Effectiveness - based on temp. differential between the 2 airstreams
Efficiency - includes parasitic losses from fan and defrosting

Dimensions ERV-150/200 inches (mm)



CONTROLS

72X54 ERV System Control

HRV System Control

HRV defaults to LOW SPEED when plugged in. HIGH SPEED option is accessible by connecting remote controls to designated terminals inside electrical box of HRV.

Standard LOW SPEED SETTING can be increased by manipulating switches in electrical box. OFF(Standby)/LOW or OFF/HIGH speed operation also available by manipulating switches.

OPTIONAL ACCESSORIES

- 89N18 20 Minute Fan Timer**
(3 wire) 20 gauge wire (min.) 100' length (max.)
- 72X52 Pitot Tube** (for air balancing)
- 95P07 Weather Hoods**, 2 - 6" (150mm) c/w 1/4" (6mm) screen
- 91X09 Balancing Damper**, 6" (150mm)

All units conform to CSA and UL standards.

DATE: _____

PROJECT: _____

MECHANICAL CONTRACTOR: _____

Electrical

The HRV/ERV unit should be plugged into a standard designated (120VAC) electrical outlet with a ground. The outlet should be serviced by a separate 15 amp/120V circuit. An extension cord should not be used with this appliance. A qualified electrical technician should make any required electrical connections.

Remote Control Connections

Low voltage connections between the provided remote controls, the dehumidistat, or the fan timer should be made by a qualified electrical technician. Low voltage (24V) wires from the remote controls are connected to the HRV/ERV micro-processor board. See wiring diagrams on pages 16 and 17.

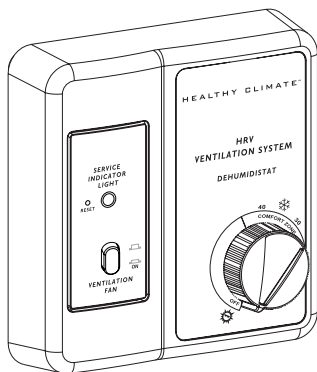
! WARNING

In order to prevent electric shock when cleaning or servicing the HRV/ERV, it is extremely important to unplug the unit.

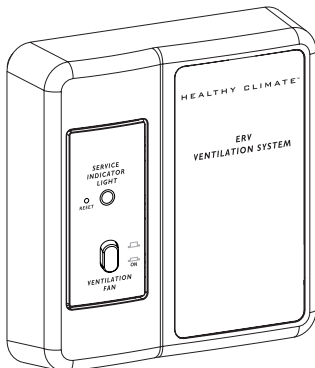
Remote Controls

Provided Controls

A wall-mounted remote control is shipped inside each HRV/ERV unit. The control should be installed on a wall in a central location. Refer to the illustrations below.



The **HRV remote control (72X53)** includes an ON/OFF switch, a dehumidistat, and a *service reminder light. The low voltage control is connected to the HRV micro-processor board by three wires. This control satisfies many building code requirements. See the wiring diagram on page 16 of this manual.



The **ERV remote control (72X54)** includes an ON/OFF switch and a *service reminder light. The low voltage control is connected to the ERV micro-processor board by two wires. This control satisfies many building code requirements. See the wiring diagram on page 17 of this manual.

Optional Controls

An optional **wall-mounted dehumidistat (27N53)** may be used with the HRV in addition to the standard remote provided with the unit. The dehumidistat provides high-speed ventilation when the indoor humidity level exceeds the setpoint. This low voltage control connects to the HRV micro-processor board by two wires. See the wiring diagram on page 16 of this manual.



An optional **20-minute fan timer (89N18)** may be used with either the HRV or ERV. The fan timer allows 20 minutes of high-speed ventilation to combat odors, humidity requirements, etc. This low voltage control connects to the HRV/ERV micro-processor board by



three wires. Up to four fan timers may be used with each HRV/ERV unit. See the wiring diagram on pages 16 and 17 of this manual.

*** Service reminder light will illuminate periodically to remind users that regular maintenance is required. To reset the light, use a paper clip to depress the reset button.**

⚠ CAUTION

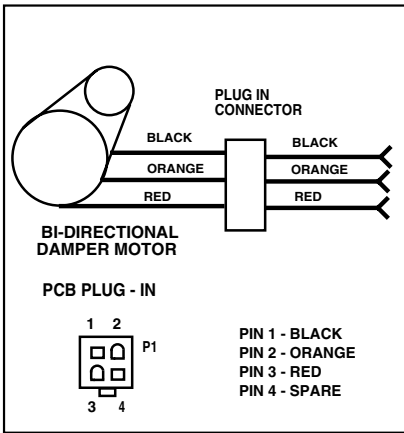
Static electricity can damage electrical circuits.
Touch grounded cabinet prior to servicing.

LEGEND

HIGH VOLTAGE	—
12V LOW VOLTAGE	—
FIELD INSTALLED	---
12V LOW VOLTAGE	---

DEFROST DETAILS

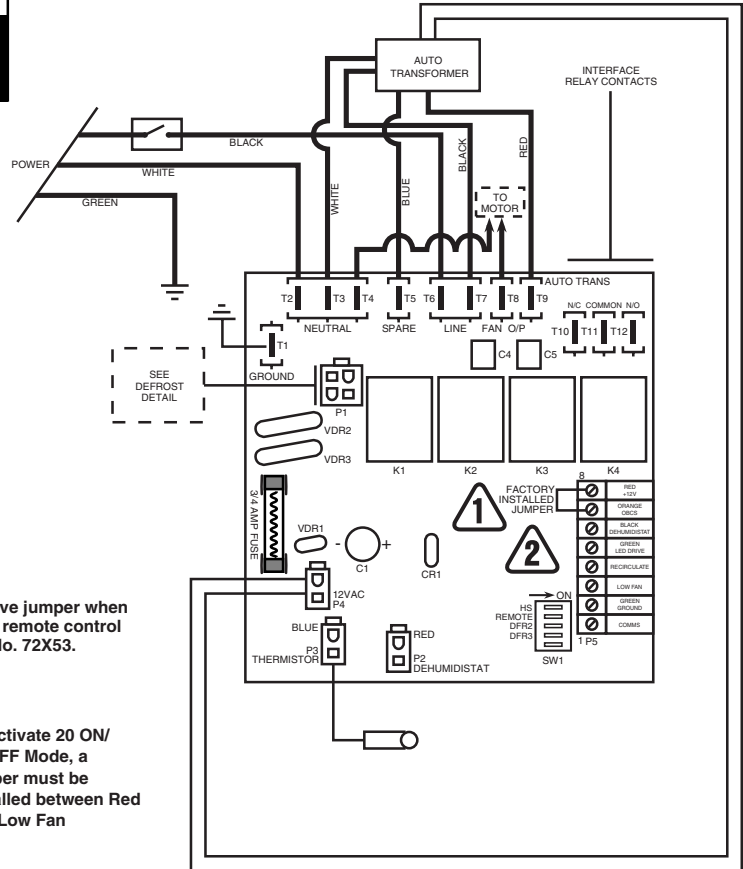
HRV Units Only



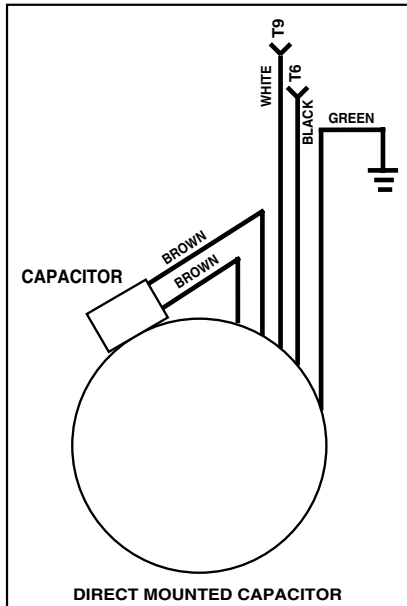
Note:
Remove jumper when using remote control Part No. 72X53.



To activate 20 ON/40 OFF Mode, a jumper must be installed between Red and Low Fan

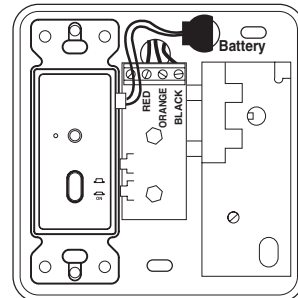


FAN MOTOR DETAILS



REMOTE CONTROL DETAILS

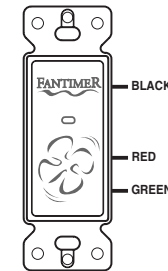
HRV CONTROL
Part No. 72X53



HRV Wiring Connections

- Red to Red (12V)
- Black to Black (Dehumidistat)
- Orange to Orange (OBCS)

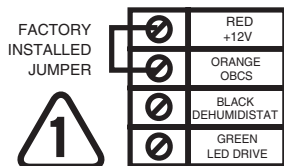
20 MINUTE FAN TIMER
Part No. 89N18



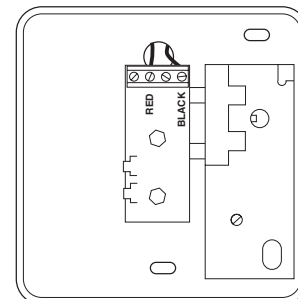
FAN TIMER Wiring Connections

- Red to Red (12V)
- Black to Black (Dehumidistat)
- Green to Green (LED Drive)

REMOTE CONTROL CONNECTIONS



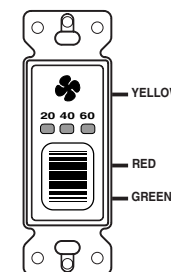
WALL MOUNTED DEHUMIDISTAT
Part No. 27N53



DEHUMIDISTAT Wiring Connections

- Red to Red (12V)
- Black to Black (Dehumidistat)

DIGITAL ELECTRONIC TIMER
Part No. 15N24



Wiring Connections

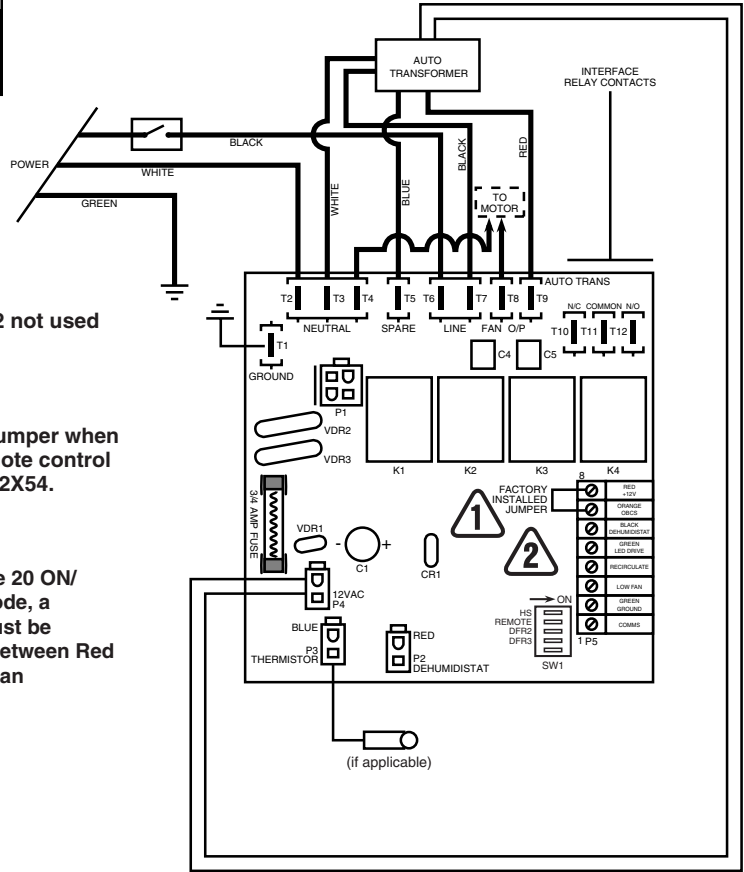
- Yellow to COMMS
- Red to Red (12V)
- Green to Green Ground

CAUTION

Static electricity can damage electrical circuits.
Touch grounded cabinet prior to servicing.

LEGEND

HIGH VOLTAGE	—
12V LOW VOLTAGE	—
FIELD INSTALLED	---
12V LOW VOLTAGE	---



Note:
P1 and P2 not used

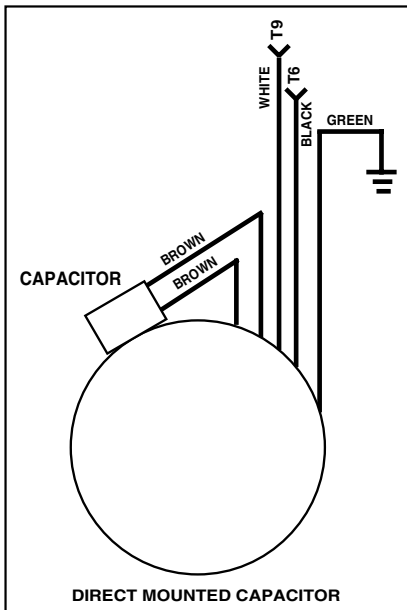


Note:
Remove jumper when using remote control Part No. 72X54.



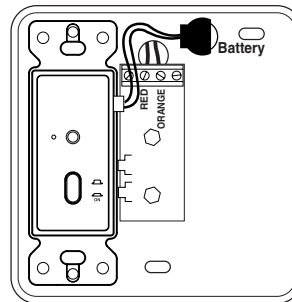
To activate 20 ON/40 OFF Mode, a jumper must be installed between Red and Low Fan

FAN MOTOR DETAILS



REMOTE CONTROL DETAILS

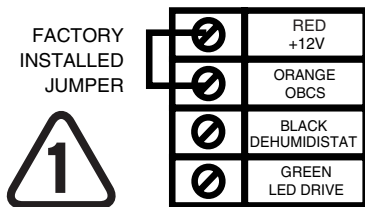
ERV CONTROL
Part No. 72X54



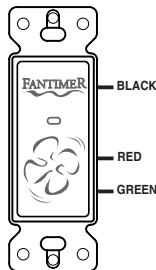
ERV Wiring Connections

- Red to Red (12V)
- Orange to Orange (OBCS)

REMOTE CONTROL CONNECTIONS



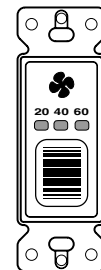
20 MINUTE FAN TIMER
Part No. 89N18



FAN TIMER Wiring Connections

- Red to Red (12V)
- Black to Black (Dehumidistat)
- Green to Green (LED Drive)

DIGITAL ELECTRONIC TIMER
Part No. 15N24



Wiring Connections

- Yellow to COMMS
- Red to Red (12V)
- Green to Green Ground