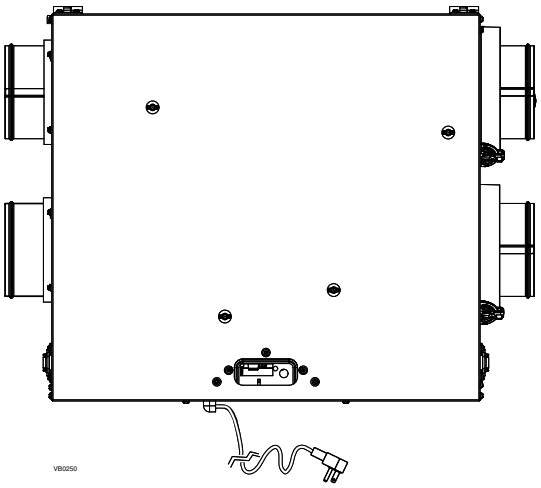
ENERGY RECOVERY VENTILATOR

vänEE 70E ECM-R
Part no. 41809*
Low speed: 50 CFM (0.2 in. w.g.), selectable 65 CFM
High speed: 105 CFM (0.4 in. w.g.), selectable 85 CFM



* This unit is the equivalent of 41808 (same parts and same performance) except for its reversed cold side and warm side ports configuration.

CONSTRUCTION

- Reversed cold side and warm side ports for a better installation flexibility (see ***Figure 1*** on page 2)
- 22 ga. galvanized steel housing and door
- One-piece molded insulation shell, (expanded polystyrene; UL 94 HF-1 certified)
- Galvanized steel 5" diameter ports*
- Steel door hinges and latches
- Cold side ports with plastic ring; allow vapor barrier sealing
- No drain required
- Included installation brackets

*All units ports were created to be connected to ducts having a minimum of 5" diameter, but if need be, they can be connected to bigger sized ducts by using an appropriate transition (e.g.: 5" diameter to 6" diameter transition).

MOTORS

- Two high reliability and efficiency, external rotor ECM motors, thermally protected
- Backward blowers, can support high static pressure environment

FILTERS

- Two washable 20 ppi reticulated polyester urethane foam filters, UL 900 class 2 certified
- Optional MERV 8 filter kit, part no. 21030 (additional 0.1 in. w.g. static pressure to be considered) (sold separately)

ERV CORE

- Crossflow aluminum-polymerized paper core, UL723 certified
- Hydroscopic polymer exchange water by direct vapor transfer using molecular transport without the need of condensation
- Constructed of alternate layers of corrugated aluminum material and polymeric bactericide dessiccant impregnated media; will not promote growth of mold or bacteria
- Unique rectangular flute design to provide very low pressure drop values

Controls

- Integrated push-button control for Low or High speed operation.
- For a complete list of optional main and auxiliary controls available, refer to the ***Wall Control Compatibility Chart*** on last pages of wall controls specification sheet, available at www.vanee.ca.
- For more details about controls, refer to the ***Main and auxiliary wall controls*** user guide, also available at www.vanee.ca.
- Removable terminal block included for quicker low voltage control connections.
- LED indicator shows operating modes and error codes.
- Unit must be permanently energized, no control should be installed on power supply of unit.

Air Flow

- Pressure taps and balancing chart to allow easier balancing of the unit
- Integrated balancing/backdraft dampers in cold supply and cold exhaust ports

Defrost Cycles

- Choice of regular or extended defrost cycles, according to climatic conditions
- To set extended defrost cycles, refer to unit installation manual

Regular Defrost Cycles			
Outside Temperature*		Defrost in Minutes / Air Exchange in Minutes	
°C	°F	Regular	Extended
Warmer than -10	Warmer than 14	No defrost	No defrost
from -10 to -15	from 14 to 5	7/40	12/30
from -15 to -27	from 5 to -17	7/20	12/20
-27 and less	-17 and less	9/12	12/10

* Outside temperature is read by a thermistor located inside the unit, next to fresh air from outside port.

Warranty

The vänEE 70E ECM is protected by a 5-year warranty on parts only, with the original proof of purchase.

Requirements and standards

- **HVI certified**
- Complies with the UL 1812 requirements regulating the installation of Energy Recovery Ventilators
- Complies with the CSA C22.2 no. 113 Standard applicable to ventilators
- Complies with CSA F326 requirements regulating the installation of Energy Recovery Ventilators

VÄNEE 70E ECM-R

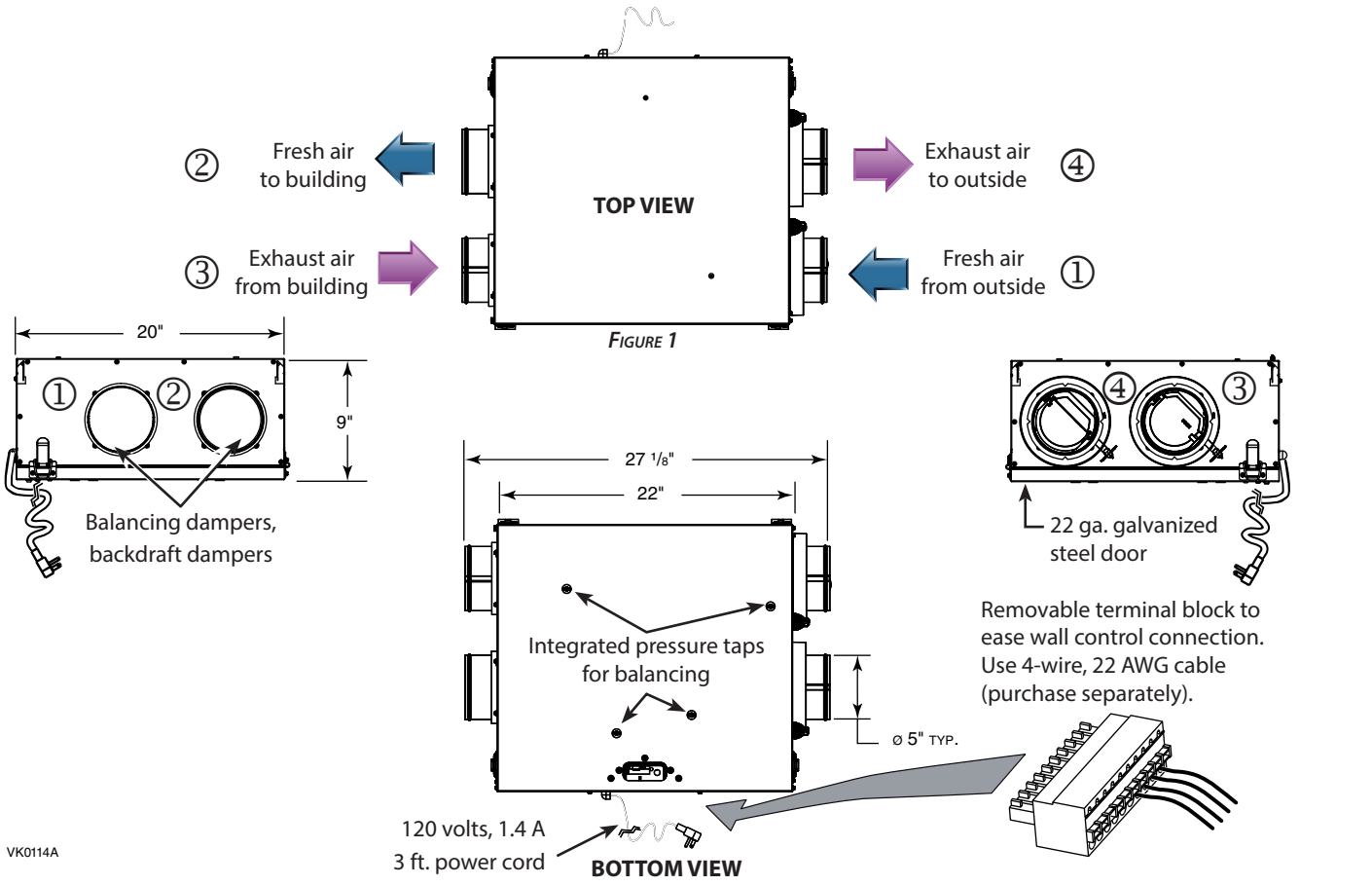
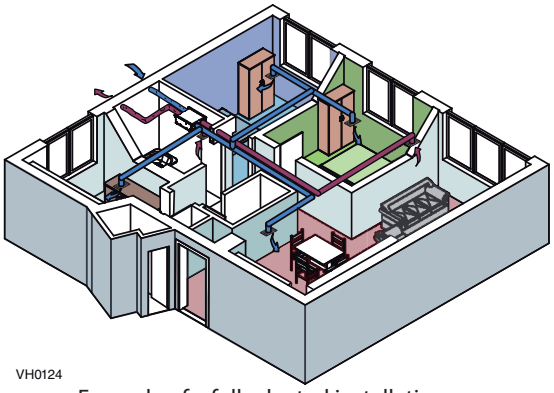


FIGURE 1

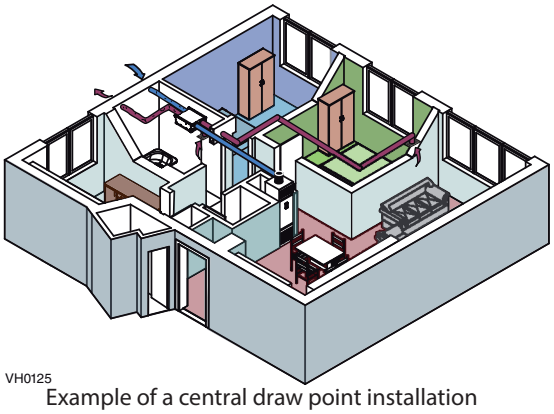
HORIZONTAL INSTALLATION ONLY

Allow 24" x 30" minimum access door.



VH0124

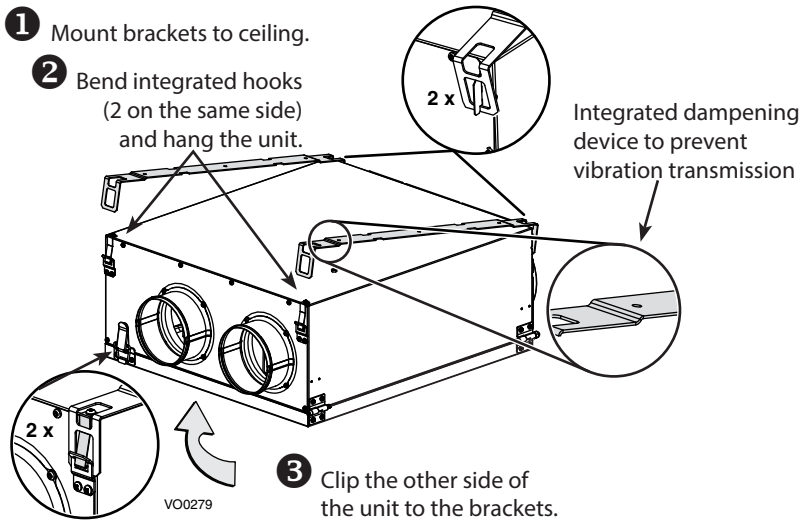
Example of a fully ducted installation



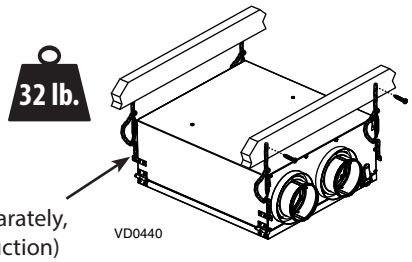
VH0125

Example of a central draw point installation

UNIQUE 3 EASY STEPS FOR CEILING INSTALLATION



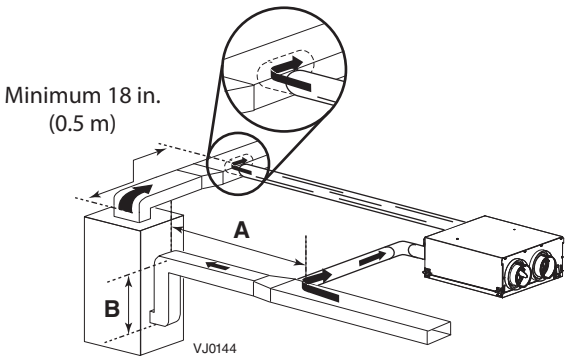
OR ALTERNATE INSTALLATION



- Optional chains and springs kit (sold separately, part no. 61239 for wood or metal construction)

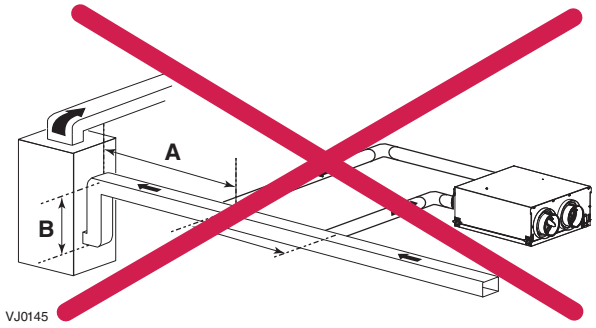
Simplified Installation (connection to a forced air system)

Supply-return

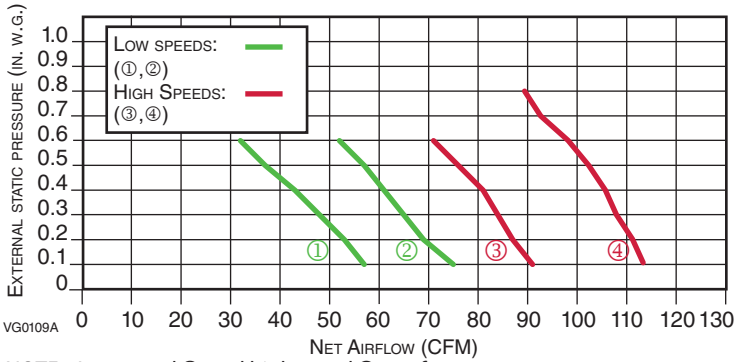


A + B = not less than 10 ft. (3.1 m)

NOT Return-return!



Ventilation Performance



NOTE: Low speed ① and high speed ④ are factory set, low speed ② and high speed ③ are selectable.

Energy Performance

Supply Temperature		Net Air Flow			Power Consumed Watts	Sensible Recovery Efficiency	Adjusted Sensible Recovery Efficiency	Apparent Sensible Effectiveness	Latent Recovery/ Moisture Transfer
°C	°F	L/s	CFM	m^3/H					
Heating									
0	32	23	49	83	21	70	72	75	0.55
0	32	30	64	109	28	68	70	73	0.51
0	32	40	85	144	43	65	67	70	0.47
-10	14	23	49	83	22	68	70	75	0.55
-25	-13	23	49	83	20	46	47	75	0.32
Cooling						Total Recovery Efficiency		Adjusted Total Recovery Efficiency	
35	95	23	49	83	21	52		53	
35	95	30	64	109	28	48		49	

NOTE: All specifications are subject to change without notice.

Accoustic Noise Power Chart (dBA)

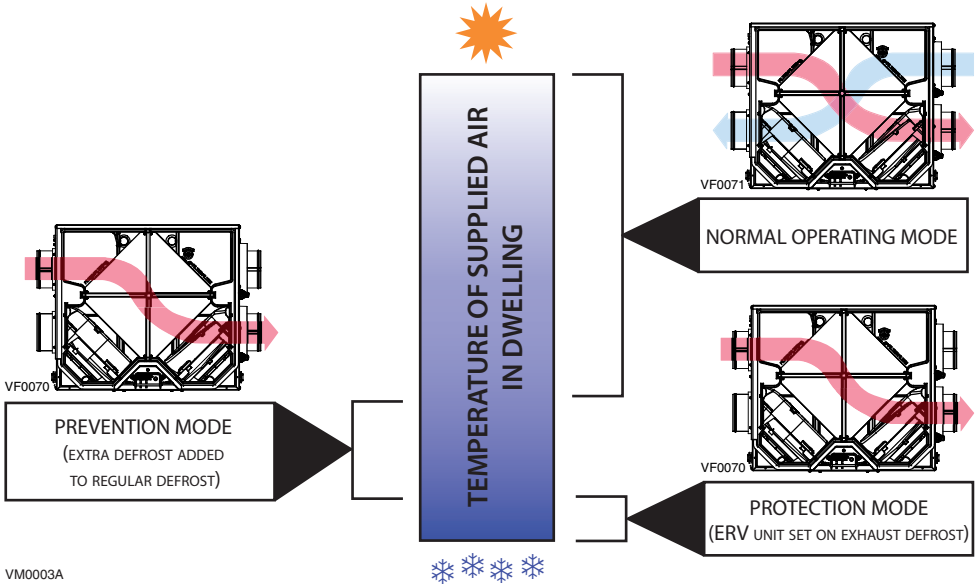
Airflow	Fresh air to building port	Exhaust air from building port
105 CFM at 0.4 in. w.g.	67.8 dBA	58.3 dBA
55 CFM at 0.1 in. w.g.	58.0 dBA	49.4 dBA

The data shown on left chart come from measurement performed according to ISO 5136 Standard. These data represent the sound power directly measured at the fresh air distribution port and exhaust air from building port. To get the actual noise level in the room, consider noise attenuation resulting from total ductwork installation.

Coldshield™ Protection

- ERV unit is equipped with an electronic supplemental protection to stop air distribution in dwelling if air distribution temperature drops below freezing point, due to abnormal conditions.

ERV UNIT MODES BASED ON AIR DISTRIBUTION TEMPERATURE



VÄNEE 70E ECM-R ARCHITECTURAL SPECIFICATIONS

AIRFLOW

- High static pressure backward blowers shall perform a minimum of 68 CFM @ 0.1 in. w.g.
- Optional high speed: 85 CFM
- Optional low speed: 65 CFM

CONSTRUCTION

- Cold side and warm side must be reversed (compared to standard units) for better installation flexibility (see ***Figure 1*** on page 2). This symetrical configuration simplifies the installations in buildings having back-to-back dwellings
- Housing and door shall be made of 22 ga. galvanized steel
- Insulation shall be made of one-piece molded expanded polystyrene, UL 94 HF-1 certified
- 5" diameter ports shall be made of galvanized steel
- Door hinges and latches shall be made of steel
- Cold side ports shall have plastic ring to allow vapor barrier sealing
- Unit construction and components shall be UL and CSA certified
- Unit shall operate all year long without drain
- Weight shall not exceed 32 lb.
- Fresh air from outside and Exhaust air to outside ports shall be located on same side
- Backdraft dampers shall be integrated in cold supply and cold exhaust port
- ERV unit shall be HVI certified

MOTORS

- Two high reliability and efficiency external rotor ECM motors, thermally protected
- The backward blowers shall support high static pressure environment
- The insulation class shall be B

FILTERS

- ERV unit shall have two washable 20 ppi reticulated polyester urethane foam filters, UL 900 class 2 certified
- Optional MERV 8 filter kit, part no. 21030

ERV CORE

- The ERV core shall be a crossflow aluminum-polymerized paper core, UL723 certified
- Hydroscopic polymer exchange water by direct vapor transfer shall use molecular transport without the need of condensation
- The ERV core shall be constructed of alternate layers of corrugated aluminum material and polymeric bactericide dessiccant impregnated media; and shall not promote growth of mold or bacteria
- The ERV core design shall be made of rectangular flutes to provide very low pressure drop values

Controls

- Unit shall be equipped with an integrated push-button control for Low or High speed operation
- Choice of low voltage main controls (not included) shall be energized by ERV unit
- Optional low voltage auxiliary controls (not included) shall be energized by ERV unit
- Removable terminal block shall be included for quicker low voltage control connections
- A LED indicator shall indicate operating modes as well as error codes
- ERV unit shall be permanently energized, no control shall be installed on power supply of unit

Air Flow Balancing

- Unit door shall be equipped with pressure taps as well as a balancing chart to allow verification of balancing of the ERV unit
- Balancing dampers shall be integrated in cold supply and cold exhaust ports

Defrost Cycles

- Unit operation shall include a choice of regular or extended defrost cycles, according to climatic conditions
- Unit shall be equipped with Coldshield™ protection to stop air supply in dwelling if air supply temperature drops below freezing point, due to abnormal conditions.

Warranty

Unit shall be protected by a 5-year warranty on parts only, with the original proof of purchase.

Requirements and standards

- Shall be HVI certified as per CSA C439 Standards
- Shall comply with the UL 1812 requirements regulating the installation of Energy Recovery Ventilators
- Shall comply with the CSA C22.2 no. 113 Standard applicable to ventilators
- Shall comply with CSA F326 requirements regulating the installation of Energy Recovery Ventilators

Project:	REMARKS
Location:	
Part no.: 41809	
Qty.:	
Submitted by: Date:	

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