Submitting Office: *Roanoke, VA* **Order No.:** *900.914.10307*

Salesman: *Dylan Henderson* **Date:** *9/19/2022*

Project: *Vinton Veterinary Hospital – Annex*

Engineer: *Kairos Project Group, Inc.*

Contractor: *Obaugh HVAC Mechanical*

Manufacturer(s): *Greenheck*

Item: *Energy Recovery Ventilators*

Drawings Reviewed: *Stamped Construction Documents Dated 6/16/2022*

For Review & Approval

SUBMITTAL DATA

HOFFMAN • HOFFMAN, INC.

HVAC Manufacturers Representative

Website: **www.hoffman-hoffman.com**

Corporate: Greensboro, NC (336) 292-8777

Asheville, NC	(828) 296-0111	Charleston, SC	(843) 884-3201
Charlotte, NC	(704) 364-4700	Columbia, SC	(803) 765-9360
Raleigh, NC	(919) 781-8011	Greenville, SC	(864) 676-1888
Wilmington, NC	(910) 791-4775	Chesapeake, VA	(757) 548-1700
Chattanooga, TN	(423) 693-2890	Richmond, VA	(804) 272-1500
Knoxville, TN	(865) 540-9770	Roanoke, VA	(540) 725-8701

We have exercised care in the preparation of this submittal. We believe it satisfies our interpretation of the designer's intent and scope. It contains the list of materials, quantities, sizes, style and the finish as we propose to furnish for this job. Please examine and check carefully that all items are exactly as required and that our interpretation of the applicable plans and/or specifications are consistent with the design. **Approval by the engineer and purchaser will be required before release of this equipment for production.** If any discrepancies are discovered, please notify us as soon as possible.

Hoffman & Hoffman, Inc.
Branch Office: Roanoke, VA
2708 Shenandoah Ave., NW
Roanoke, VA 24017
Ph. 540-725-8701
Fax 540-725-8711
Salesman: Dylan Henderson
Dylan.henderson@hoffman-hoffman.com
Order No.: 900.914.10307

Submittal Data

Date: 9/19/2022
Project: Vinton Veterinary Hospital - Annex
Location: Vinton, VA
Manufacturer: Greenheck
Item: Energy Recovery Ventilator

Note:

1) To select the scheduled basis of design for Mark: ERV-02, MiniCore-5-VG, the supply airflow was adjusted down to 625 CFM at 0.0 ESP which maxes out the fan power within this unit. Updated fan power regulations (1 watt per CFM) have required adjustment to max unit output. Engineer to review and provide acceptance as unit as submitted or direction to proceed with scheduled airflow if reduction to 625 CFM is not adequate.

Minicore-10-VG-F

Unit Performance

Design Conditions

Elevation (ft)	Summer		Winter DB (F)	Outdoor Air (CFM)	Exhaust Air (CFM)
	DB (F)	WB (F)			
1,175	92.1	75.4	14.2	1,000	1,000

Unit Specifications

Qty	Weight (lb)	Unit Installation	Unit ETL Listing
1	245 (+/- 5%)	Indoor	UL 1812

Configuration

Outdoor Air		Exhaust Air	
Intake	Discharge	Intake	Discharge
End	End	End	End

Energy Recovery Performance

Design Condition	Temperature (F)								Capacity Reduction (BTU/h)
	Outdoor Air		Supply Air		Return Air		Exhaust Air		
	DB	WB	DB	WB	DB	WB/RH	DB	WB	
Summer	92.1	75.4	81.4	69.7	75.0	62.4/50	85.5	69.0	23,850.0
Winter	14.2	11.4	48.3	39.0	72.0	55.6/35	36.2	33.7	37,135.0

Air Performance

Type	Total Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	FRPM	Fan		
					Qty	Type	Drive-Type
Supply	1,000	0	0.15	1193	1	Forward Curve	Direct
Exhaust	1,000	0	0.15	1451	1	Forward Curve	Direct

Motor Specifications

Motor	Qty	Operating Power (hp)	Size (hp)	Enclosure	Efficiency	RPM
Supply	1	0.5	3/4	ODP	N/A	1725
Exhaust	1	0.6	3/4	ODP	N/A	1725

Electrical Specifications

Power Supply	Rating (V/C/P)	MCA (A)	MOP (A)	Fan Power (W/CFM)*
Unit	115/60/1	19.8	30.0	0.820

*Fan Power (W/CFM) = (Supply BHP + Exhaust BHP) / Supply CFM

Construction Features And Accessories

Unit	
UL-1812	Std
Unit Installation - Indoor	Std
Energy Recovery Device - Fiber Membrane Energy Recovery Core	Std
Unit Construction - Single Wall	Std
Wall Insulation - 1/2 inch R2 Fiberglass	Std
Corrosion Resistant Fasteners	Std
Two Direct Drive Forward Curved Blowers and VariGreen EC Motors	Std
Unit Finish - Galvanized Steel	Std
Four Factory Mounted Hanging Brackets	Std
Gravity Backdraft Dampers	Std
Outdoor Air Filters - 2" MERV 8, 1-20x20	Std
Exhaust Air Filters - 2" MERV 8, 1-20x20	Std
Single Point Power	Std
Factory Wired Non-Fused Disconnect Switch	X
Access - Bolt On	Std
Controls	
Unit Controls - By Others	
Unit On/Off Control - By Others	X
Supply Fan Control - 0-10 VDC Signal by Others	X
Exhaust Fan Control - 0-10 VDC Signal by Others	X

Accessories	
Frost Control - Timed Exhaust	X
Speed Control - Motor Potentiometer / 0-10 VDC Signal	X
Isolation Kit - Neoprene Base	X
Spare Filters	
Duct Flange	Std
Smoke Detector(s)	
Warranty Options	
Unit Warranty - 18 Months (Std.)	Std
Energy Core Warranty - 5 Yrs	Std

Standard Option	Std
Not Included	
Included	X

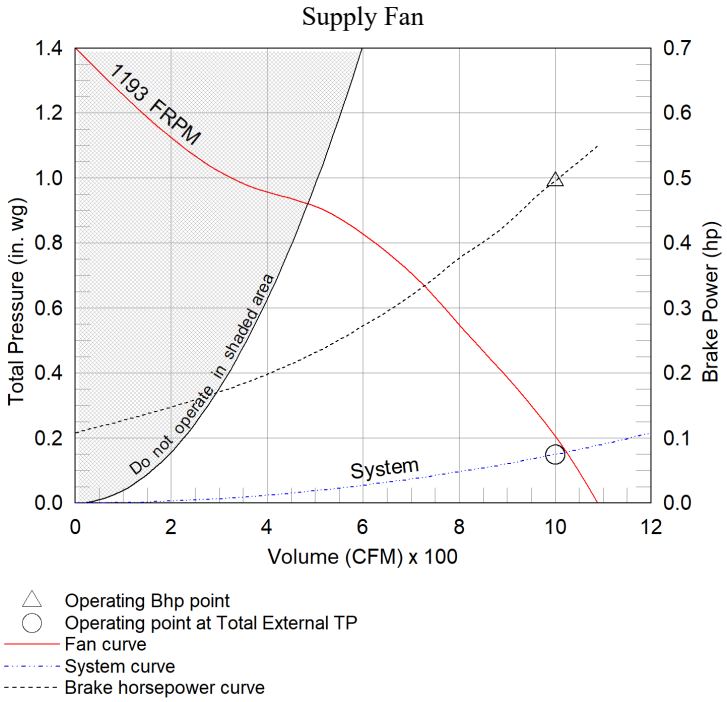
Notes
As standard, the MiniCore is to be mounted in a horizontal orientation but can also be mounted on its side or a vertical position. Reference the MiniCore IOM for more information.
MiniCore includes standard gravity backdraft dampers for discharge air streams.
The intake and discharge positions shown in the drawings are not labeled because they are configurable. The supply and exhaust can be on either side, but the intake/discharge relationship must be maintained.

Supply Fan Charts And Performance

Supply Fan Performance									
Total Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating Power (hp)	Motor		Fan		
					Qty	Size (hp)	Qty	Type	Drive-Type
1,000	0	0.15	1193	0.5	1	3/4	1	Forward Curve	Direct

Pressure Drop (in. wg)				
Weatherhood	Filter	Damper	External	Total
-	0.15	-	0	0.15

Sound Performance in Accordance with AMCA										
Sound Power by Octave Band								Lwa	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
84.1	86	85.1	73.2	73.6	70.4	69.8	66.9	80.8	69.3	18.7

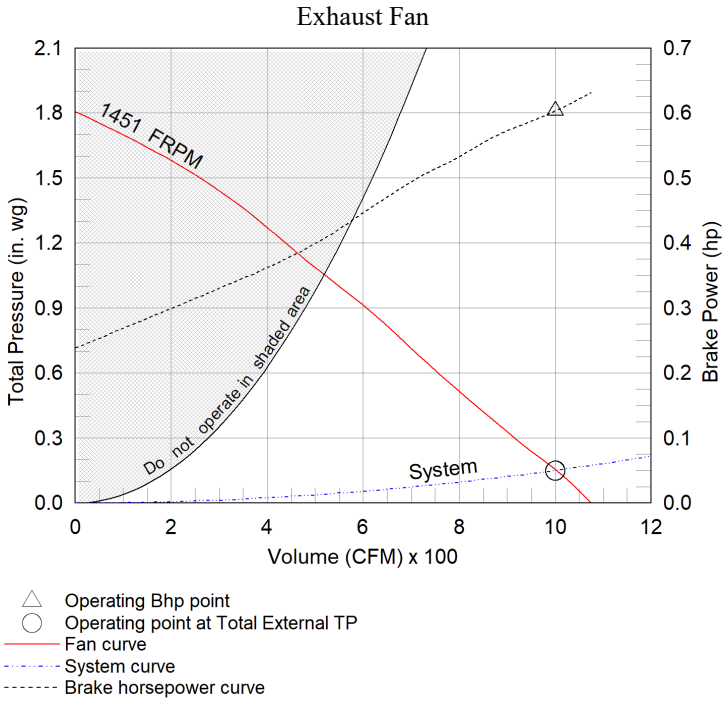


Exhaust Fan Charts And Performance

Exhaust Fan Performance									
Total Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating Power (hp)	Motor		Fan		
					Qty	Size (hp)	Qty	Type	Drive-Type
1,000	0	0.15	1451	0.6	1	3/4	1	Forward Curve	Direct

Pressure Drop (in. wg)				
Weatherhood	Filter	Damper	External	Total
-	0.15	-	0	0.15

Sound Performance in Accordance with AMCA										
Sound Power by Octave Band								Lwa	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
81.5	81	76.1	60.2	53.2	53.9	47.6	36.4	70.3	58.8	9.4



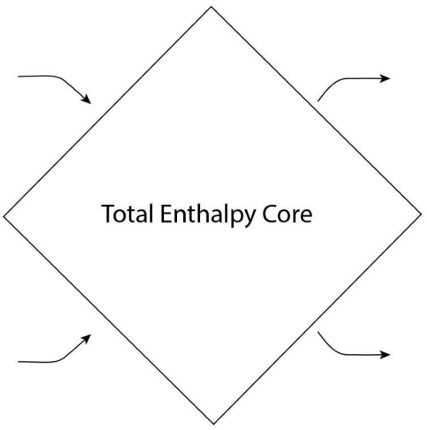
Energy Recovery Summer Performance

Design Air Flow Conditions			
OA Volume (CFM)	ASHRAE 90.1 OA Enthalpy Recovery Ratio	EA Volume (CFM)	EA Core Effectiveness
1,000	47.6	1,000	47.1

Outdoor Air Cooling Reduction				
OA Load w/o Energy Recovery		OA Load with Energy Recovery		Equipment Reduction (tons)
(BTU/h)	(tons)	(BTU/h)	(tons)	
49,950.0	4.16	26,100.0	2.17	1.99

Outdoor Air Entering	
Dry Bulb (F)	92.1
Wet Bulb (F)	75.4
Specific Humidity (gr/lb)	112
Enthalpy (BTU/lb)	39.7

Indoor Air Leaving	
Dry Bulb (F)	75.0
Rel. Humidity (%)	50
Specific Humidity (gr/lb)	68
Enthalpy (BTU/lb)	28.6



Exhaust Air Leaving	
Dry Bulb (F)	85.5
Wet Bulb (F)	69.0
Specific Humidity (gr/lb)	84
Enthalpy (BTU/lb)	33.7

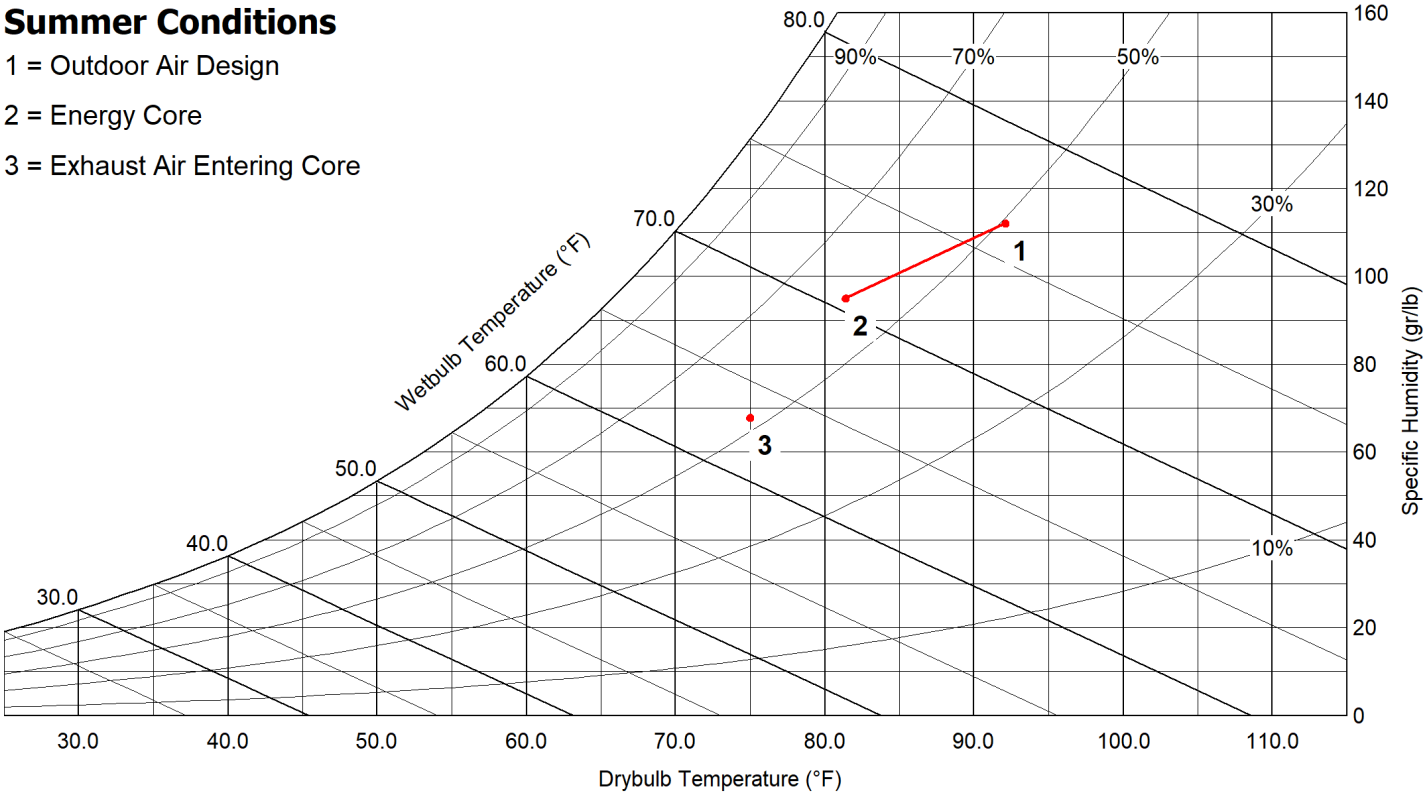
Supply Air Leaving	
Dry Bulb (F)	81.4
Wet Bulb (F)	69.7
Specific Humidity (gr/lb)	95
Enthalpy (BTU/lb)	34.4

Summer Conditions

1 = Outdoor Air Design

2 = Energy Core

3 = Exhaust Air Entering Core



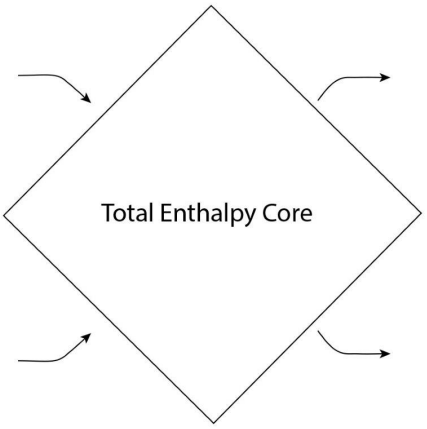
Energy Recovery Winter Performance

Design Air Flow Conditions			
OA Volume (CFM)	ASHRAE 90.1 OA Enthalpy Recovery Ratio	EA Volume (CFM)	EA Core Effectiveness
1,000	54.3	1,000	57

Outdoor Air Heating Reduction			
OA Load w/o Energy Recovery (BTU/h)	OA Load with Energy Recovery (BTU/h)	Equipment Reduction (BTU/h)	Sensible Effectiveness (%)
62,944.0	25,809.0	37,135.0	58.7

Outdoor Air Entering	
Dry Bulb (F)	14.2
Wet Bulb (F)	11.4
Specific Humidity (gr/lb)	6
Enthalpy (BTU/lb)	4.3

Indoor Air Leaving	
Dry Bulb (F)	72.0
Rel. Humidity (%)	35
Specific Humidity (gr/lb)	43
Enthalpy (BTU/lb)	23.9



Exhaust Air Leaving	
Dry Bulb (F)	36.2
Wet Bulb (F)	33.7
Specific Humidity (gr/lb)	26
Enthalpy (BTU/lb)	12.6

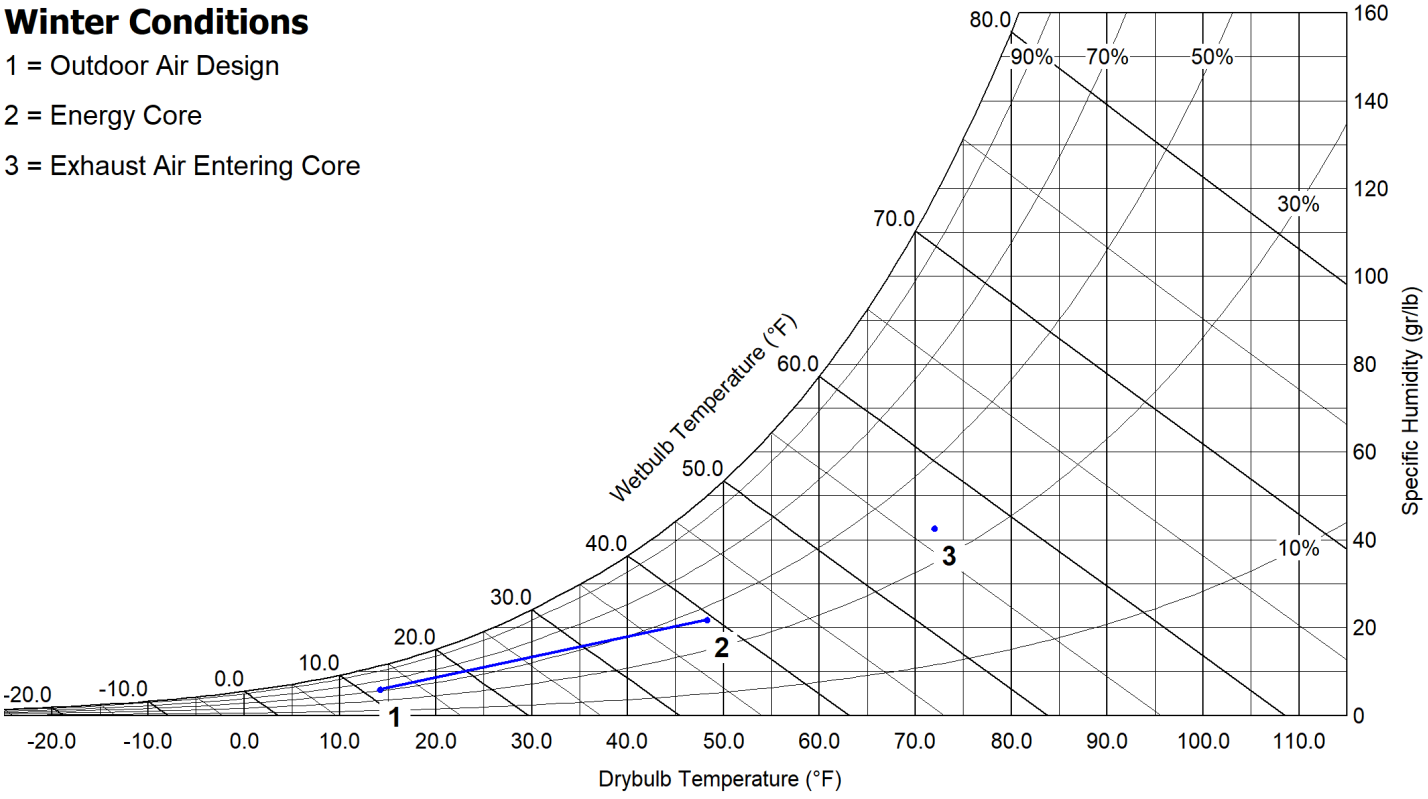
Supply Air Leaving	
Dry Bulb (F)	48.3
Wet Bulb (F)	39.0
Specific Humidity (gr/lb)	22
Enthalpy (BTU/lb)	15.0

Winter Conditions

1 = Outdoor Air Design

2 = Energy Core

3 = Exhaust Air Entering Core



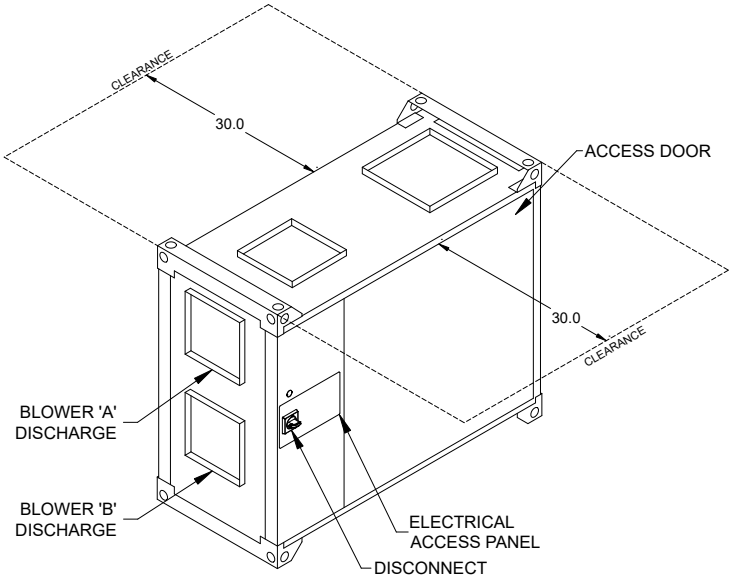
AHRI Performance Ratings

Energy Recovery Performance Rating in accordance with AHRI Standard 1060 (I-P)						
Rated Airflow (SCFM)		Net Supply Airflow (SCFM)	EATR (%)	OACF	Pressure Drop (in. wg)	
Leaving Supply	Entering Exhaust				Supply	Exhaust
1007	1007	1000	0.7	1.01	0.91	0.91

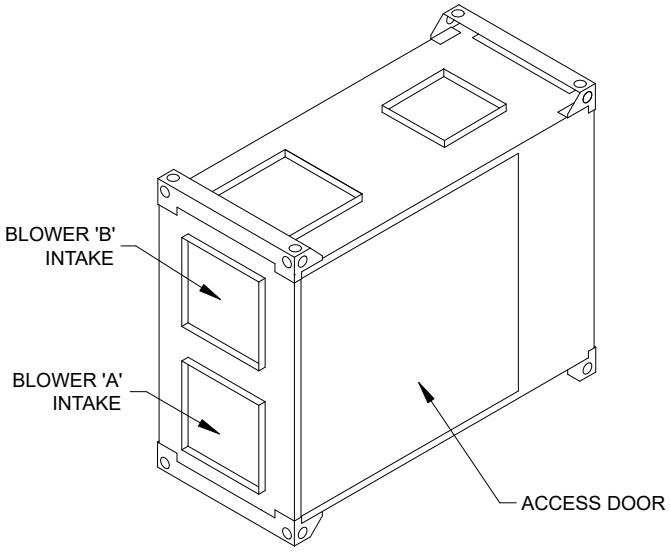
Thermal Effectiveness Ratings							
Enthalpy Recovery Ratio (%)		Sensible Effectiveness (%)		Latent Effectiveness (%)		Total Effectiveness (%)	
Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
47.6	54.3	62.1	58.7	37.2	43.1	47.1	57

Note(s)
Summer Design Conditions: Unit is outside of the scope of AHRI ERV Certification Program, and is not AHRI Certified.
Winter Design Conditions: Unit is outside of the scope of AHRI ERV Certification Program, and is not AHRI Certified.
EATR application performance for an indoor mounted unit assumes 85% external static pressure (in. wg.) drop is on the outdoor air discharge.
OACF application performance for an indoor mounted unit assumes 85% external static pressure (in. wg.) drop is on the return air intake.

Isometric Drawings

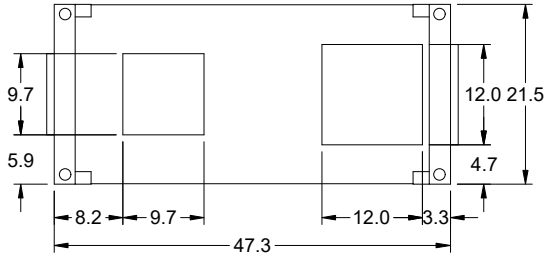


Back Right Isometric

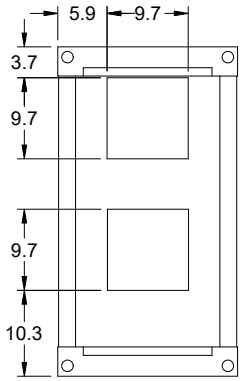


Front Left Isometric

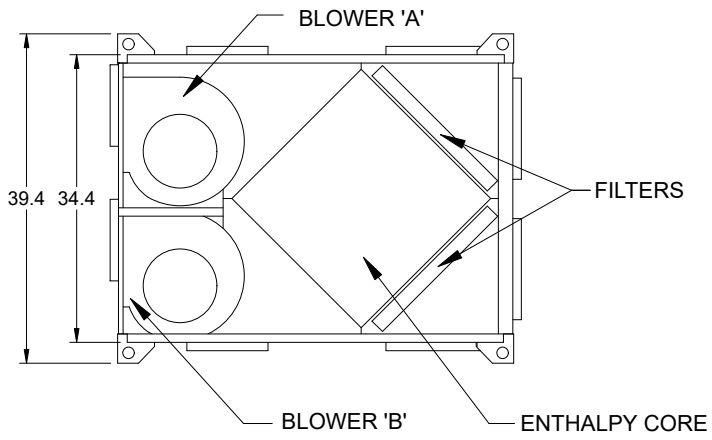
Overview Drawings



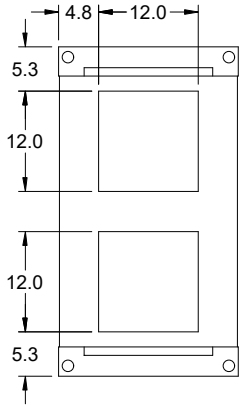
Plan



Left End

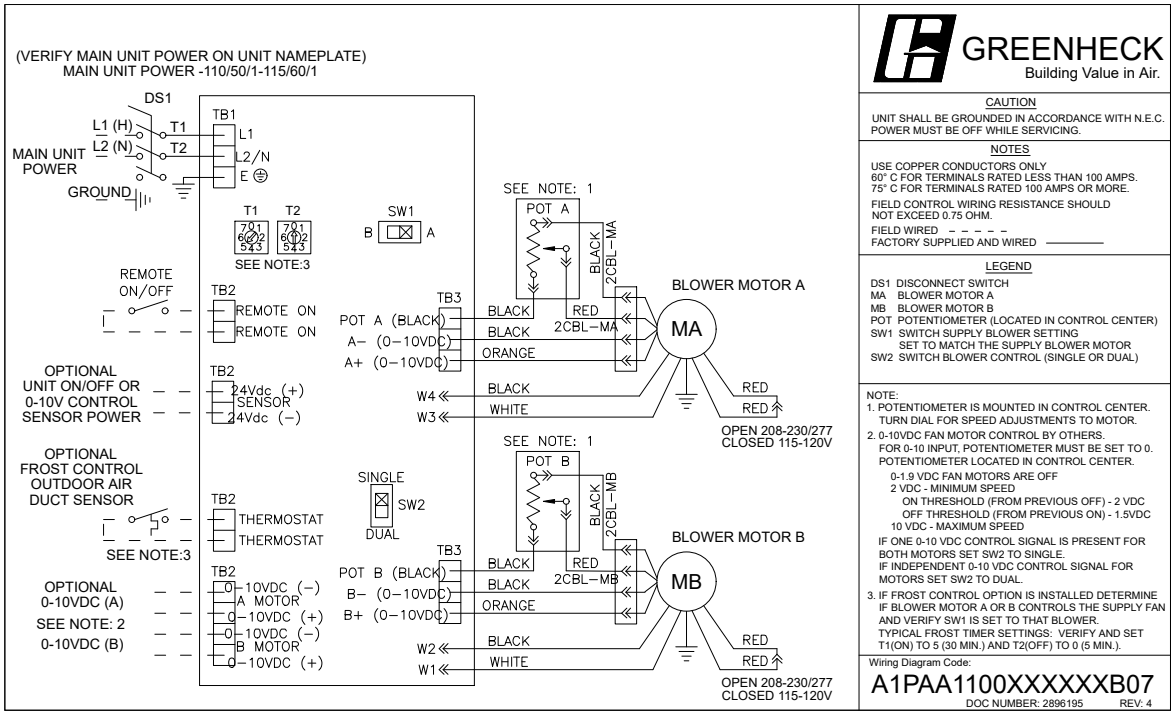


Overview



Right End

Wiring Diagram



GREENHECK
Building Value in Air.

CAUTION

UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES

USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.

FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.

FIELD WIRED – – – – –
FACTORY SUPPLIED AND WIRED ————

LEGEND

DS1 DISCONNECT SWITCH
MA BLOWER MOTOR A
MB BLOWER MOTOR B
POT POTENTIOMETER (LOCATED IN CONTROL CENTER)
SW1 SWITCH SUPPLY BLOWER SETTING
SET TO MATCH THE SUPPLY BLOWER MOTOR
SW2 SWITCH BLOWER CONTROL (SINGLE OR DUAL)

NOTE:
1. POTENTIOMETER IS MOUNTED IN CONTROL CENTER. TURN DIAL FOR SPEED ADJUSTMENTS TO MOTOR.
2. 0-10VDC FAN MOTOR CONTROL BY OTHERS. FOR 0-10 INPUT, POTENTIOMETER MUST BE SET TO 0. POTENTIOMETER LOCATED IN CONTROL CENTER.
   0-1.9 VDC FAN MOTORS ARE OFF
   2 VDC - MINIMUM SPEED
   ON THRESHOLD (FROM PREVIOUS OFF) - 2 VDC
   OFF THRESHOLD (FROM PREVIOUS ON) - 1.5VDC
   10 VDC - MAXIMUM SPEED
   IF ONE 0-10 VDC CONTROL SIGNAL IS PRESENT FOR BOTH MOTORS SET SW2 TO SINGLE.
   IF INDEPENDENT 0-10 VDC CONTROL SIGNAL FOR MOTORS SET SW2 TO DUAL.
3. IF FROST CONTROL OPTION IS INSTALLED DETERMINE IF BLOWER MOTOR A OR B CONTROLS THE SUPPLY FAN AND VERIFY SW1 IS SET TO THAT BLOWER. TYPICAL FROST TIMER SETTINGS: VERIFY AND SET T1(ON) TO 5 (30 MIN.) AND T2(OFF) TO 0 (5 MIN.).

Wiring Diagram Code:

A1PAA1100XXXXXB07

DOC NUMBER: 2896195 REV: 4

Warranty Statement for ERV Preconditioners

Unit Warranty

Greenheck warrants the equipment to be free from defects in material and workmanship for a period of 18 months from the date of shipment. Initial startup must be completed within six months of the shipment date, and a startup report must be submitted to Greenheck.

Total Energy Core Warranty

The enthalpy core is warranted to be free from defects in material and workmanship for a period of 5 years from the shipment date.

Warranty Notes

Any component which proves defective during the warranty period will be repaired or replaced at Greenheck's sole option when returned to our factory, transportation prepaid. All warranties do not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product. These warranties are exclusive and are in lieu of all other warranties, whether written, oral, or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose. No person (including any agent or salesperson) has authority to expand Seller's obligation beyond the terms of this warranty, or to state that the performance of the product is other than that published by Seller.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Minicore-5-VG-F

Unit Performance

Design Conditions

Elevation (ft)	Summer		Winter DB (F)	Outdoor Air (CFM)	Exhaust Air (CFM)
	DB (F)	WB (F)			
1,175	92.1	75.4	14.2	625	625

Unit Specifications

Qty	Weight (lb)	Unit Installation	Unit ETL Listing
1	215 (+/- 5%)	Indoor	UL 1812

Configuration

Outdoor Air		Exhaust Air	
Intake	Discharge	Intake	Discharge
End	End	End	End

Energy Recovery Performance

Design Condition	Temperature (F)								Capacity Reduction (BTU/h)
	Outdoor Air		Supply Air		Return Air		Exhaust Air		
	DB	WB	DB	WB	DB	WB/RH	DB	WB	
Summer	92.1	75.4	81.1	69.3	75.0	62.4/50	85.8	69.4	15,750.0
Winter	14.2	11.4	49.7	39.9	72.0	55.6/35	34.8	32.6	24,162.0

Air Performance

Type	Total Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	FRPM	Fan		
					Qty	Type	Drive-Type
Supply	625	0	0.112	1075	1	Forward Curve	Direct
Exhaust	625	0	0.112	1199	1	Forward Curve	Direct

Motor Specifications

Motor	Qty	Operating Power (hp)	Size (hp)	Enclosure	Efficiency	RPM
Supply	1	0.22	1/4	ODP	N/A	1725
Exhaust	1	0.25	1/4	ODP	N/A	1725

Electrical Specifications

Power Supply	Rating (V/C/P)	MCA (A)	MOP (A)	Fan Power (W/CFM)*
Unit	115/60/1	6.4	15.0	0.563

*Fan Power (W/CFM) = (Supply BHP + Exhaust BHP) / Supply CFM

Construction Features And Accessories

Unit	
UL-1812	Std
Unit Installation - Indoor	Std
Energy Recovery Device - Fiber Membrane Energy Recovery Core	Std
Unit Construction - Single Wall	Std
Wall Insulation - 1/2 inch R2 Fiberglass	Std
Corrosion Resistant Fasteners	Std
Two Direct Drive Forward Curved Blowers and VariGreen EC Motors	Std
Unit Finish - Galvanized Steel	Std
Four Factory Mounted Hanging Brackets	Std
Gravity Backdraft Dampers	Std
Outdoor Air Filters - 2" MERV 8, 1-15x20	Std
Exhaust Air Filters - 2" MERV 8, 1-15x20	Std
Single Point Power	Std
Factory Wired Non-Fused Disconnect Switch	X
Access - Bolt On	Std
Controls	
Unit Controls - By Others	
Unit On/Off Control - By Others	X
Supply Fan Control - 0-10 VDC Signal by Others	X
Exhaust Fan Control - 0-10 VDC Signal by Others	X

Accessories	
Frost Control - Timed Exhaust	X
Speed Control - Motor Potentiometer / 0-10 VDC Signal	X
Isolation Kit - Neoprene Base	X
Spare Filters	
Duct Flange	Std
Smoke Detector(s)	
Warranty Options	
Unit Warranty - 18 Months (Std.)	Std
Energy Core Warranty - 5 Yrs	Std

Standard Option	Std
Not Included	
Included	X

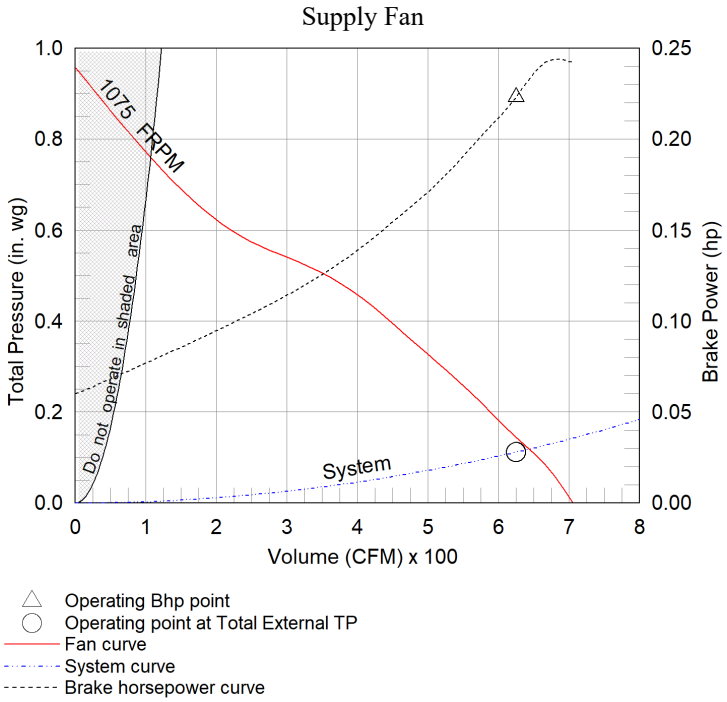
Notes
As standard, the MiniCore is to be mounted in a horizontal orientation but can also be mounted on its side or a vertical position. Reference the MiniCore IOM for more information.
MiniCore includes standard gravity backdraft dampers for discharge air streams.
The intake and discharge positions shown in the drawings are not labeled because they are configurable. The supply and exhaust can be on either side, but the intake/discharge relationship must be maintained.

Supply Fan Charts And Performance

Supply Fan Performance									
Total Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating Power (hp)	Motor		Fan		
					Qty	Size (hp)	Qty	Type	Drive-Type
625	0	0.112	1075	0.22	1	1/4	1	Forward Curve	Direct

Pressure Drop (in. wg)				
Weatherhood	Filter	Damper	External	Total
-	0.112	-	0	0.112

Sound Performance in Accordance with AMCA										
Sound Power by Octave Band								Lwa	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
77.6	79.5	76	68.5	66.8	64.8	63.5	59	73.8	62.3	12

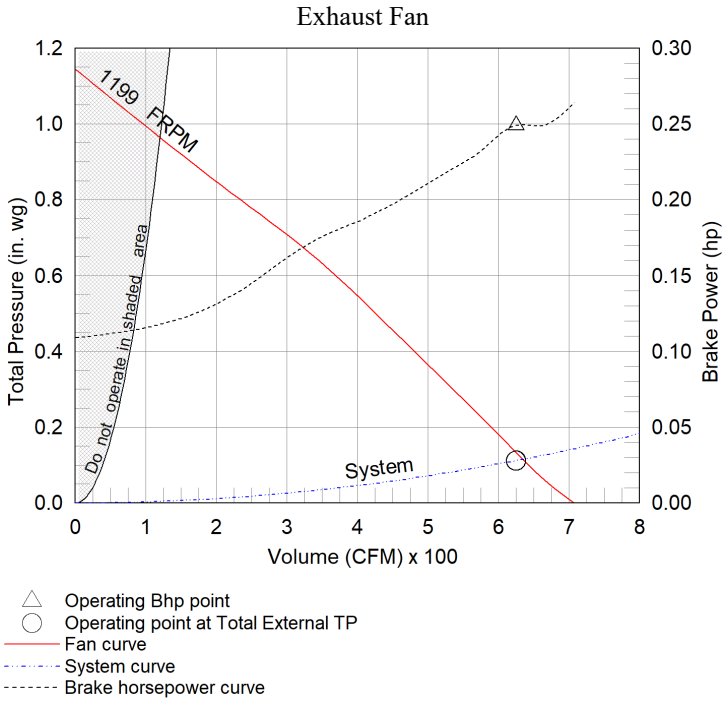


Exhaust Fan Charts And Performance

Exhaust Fan Performance									
Total Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating Power (hp)	Motor		Fan		
					Qty	Size (hp)	Qty	Type	Drive-Type
625	0	0.112	1199	0.25	1	1/4	1	Forward Curve	Direct

Pressure Drop (in. wg)				
Weatherhood	Filter	Damper	External	Total
-	0.112	-	0	0.112

Sound Performance in Accordance with AMCA										
Sound Power by Octave Band								Lwa	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
80.9	72	66.5	56.7	50.7	48.4	43.2	29.2	62.8	51.3	6.3



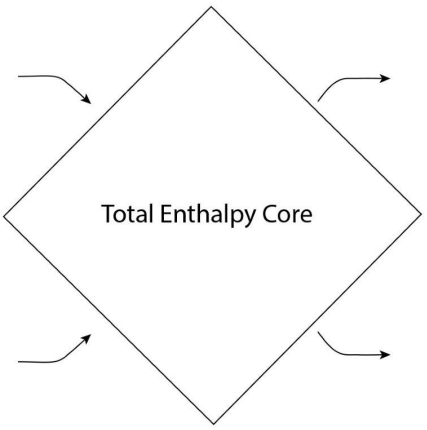
Energy Recovery Summer Performance

Design Air Flow Conditions			
OA Volume (CFM)	ASHRAE 90.1 OA Enthalpy Recovery Ratio	EA Volume (CFM)	EA Core Effectiveness
625	50.2	625	49.7

Outdoor Air Cooling Reduction				
OA Load w/o Energy Recovery		OA Load with Energy Recovery		Equipment Reduction (tons)
(BTU/h)	(tons)	(BTU/h)	(tons)	
31,219.0	2.60	15,469.0	1.29	1.31

Outdoor Air Entering	
Dry Bulb (F)	92.1
Wet Bulb (F)	75.4
Specific Humidity (gr/lb)	112
Enthalpy (BTU/lb)	39.7

Indoor Air Leaving	
Dry Bulb (F)	75.0
Rel. Humidity (%)	50
Specific Humidity (gr/lb)	68
Enthalpy (BTU/lb)	28.6



Exhaust Air Leaving	
Dry Bulb (F)	85.8
Wet Bulb (F)	69.4
Specific Humidity (gr/lb)	85
Enthalpy (BTU/lb)	34.0

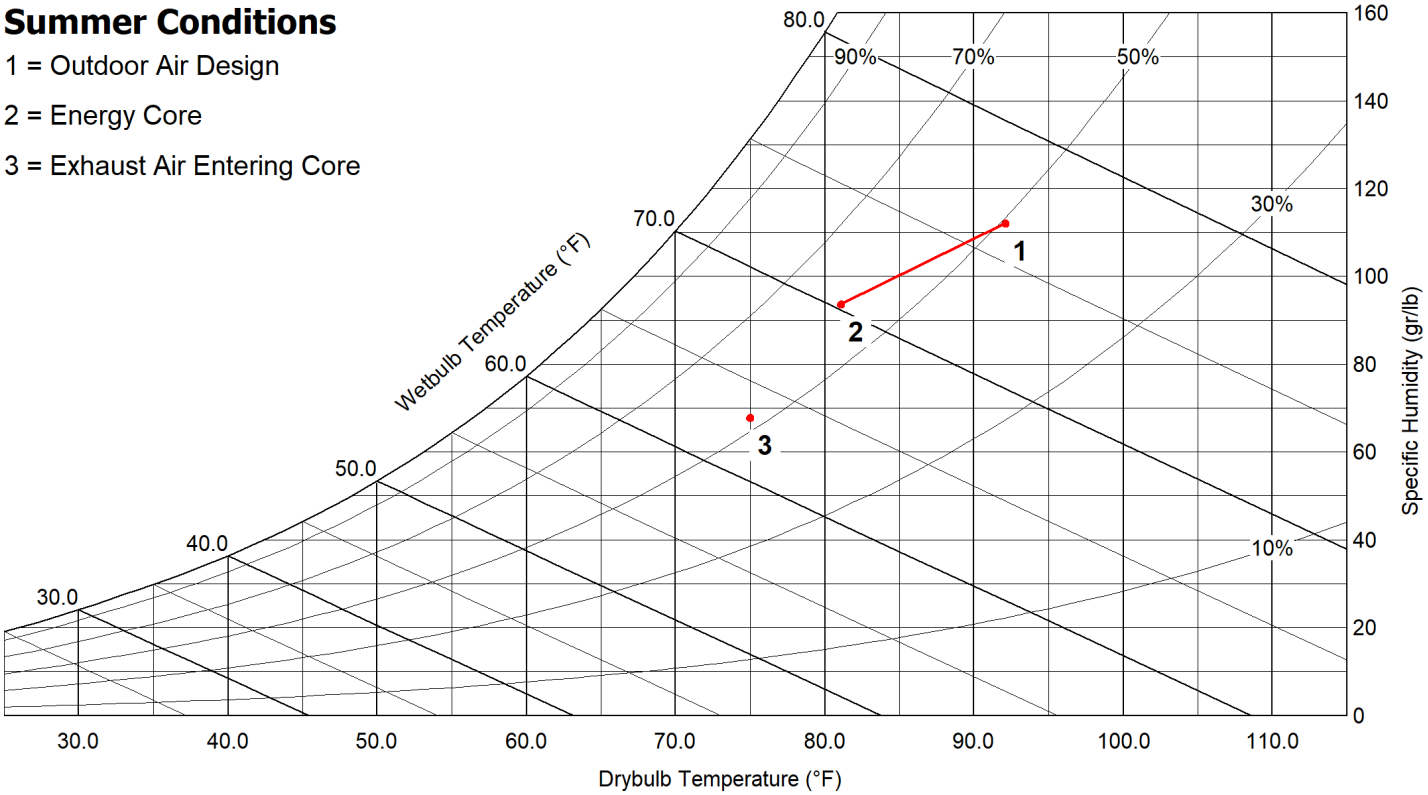
Supply Air Leaving	
Dry Bulb (F)	81.1
Wet Bulb (F)	69.3
Specific Humidity (gr/lb)	94
Enthalpy (BTU/lb)	34.1

Summer Conditions

1 = Outdoor Air Design

2 = Energy Core

3 = Exhaust Air Entering Core



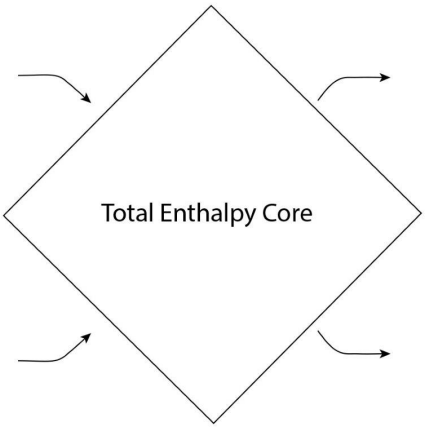
Energy Recovery Winter Performance

Design Air Flow Conditions			
OA Volume (CFM)	ASHRAE 90.1 OA Enthalpy Recovery Ratio	EA Volume (CFM)	EA Core Effectiveness
625	56.6	625	59.3

Outdoor Air Heating Reduction			
OA Load w/o Energy Recovery (BTU/h)	OA Load with Energy Recovery (BTU/h)	Equipment Reduction (BTU/h)	Sensible Effectiveness (%)
39,340.0	15,178.0	24,162.0	61.1

Outdoor Air Entering	
Dry Bulb (F)	14.2
Wet Bulb (F)	11.4
Specific Humidity (gr/lb)	6
Enthalpy (BTU/lb)	4.3

Indoor Air Leaving	
Dry Bulb (F)	72.0
Rel. Humidity (%)	35
Specific Humidity (gr/lb)	43
Enthalpy (BTU/lb)	23.9



Exhaust Air Leaving	
Dry Bulb (F)	34.8
Wet Bulb (F)	32.6
Specific Humidity (gr/lb)	25
Enthalpy (BTU/lb)	12.2

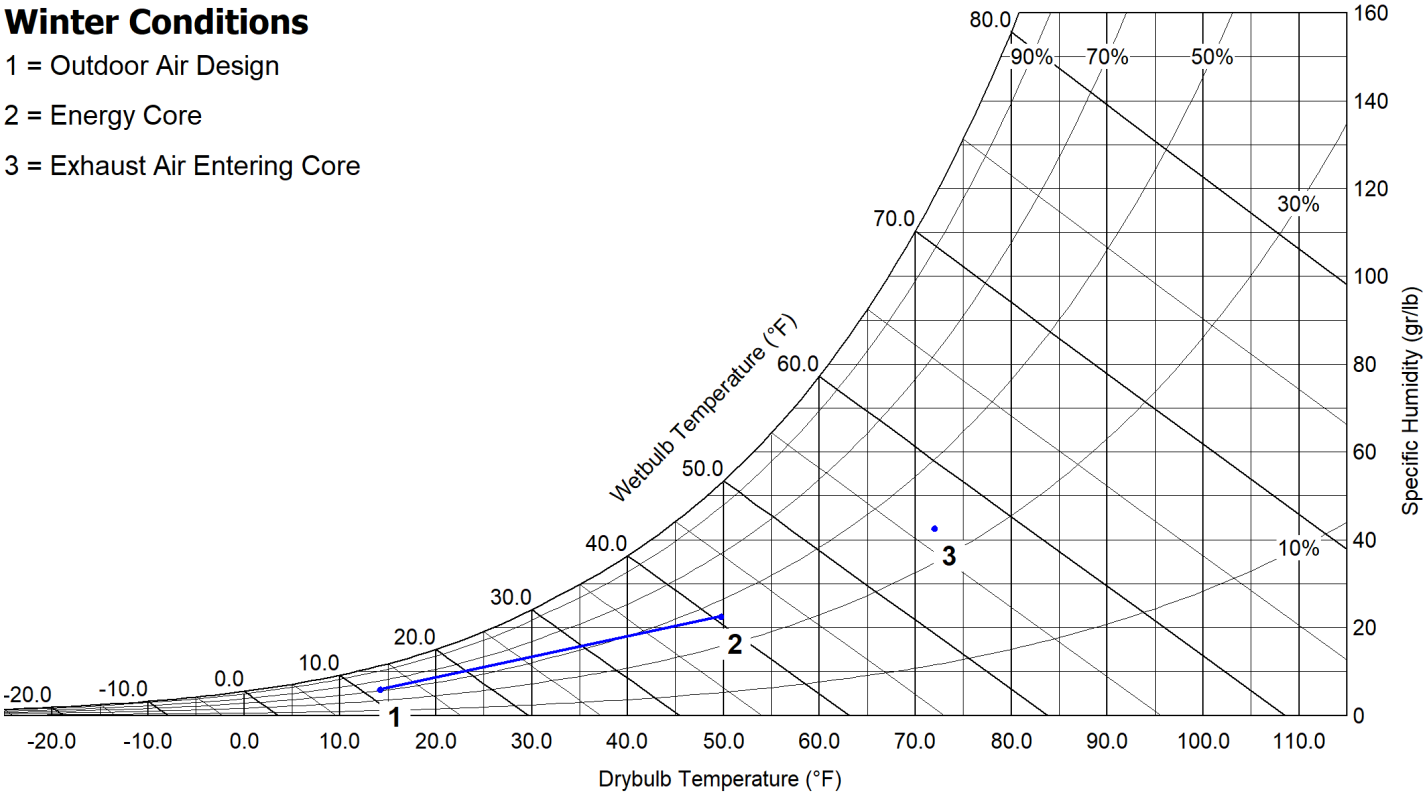
Supply Air Leaving	
Dry Bulb (F)	49.7
Wet Bulb (F)	39.9
Specific Humidity (gr/lb)	23
Enthalpy (BTU/lb)	15.4

Winter Conditions

1 = Outdoor Air Design

2 = Energy Core

3 = Exhaust Air Entering Core



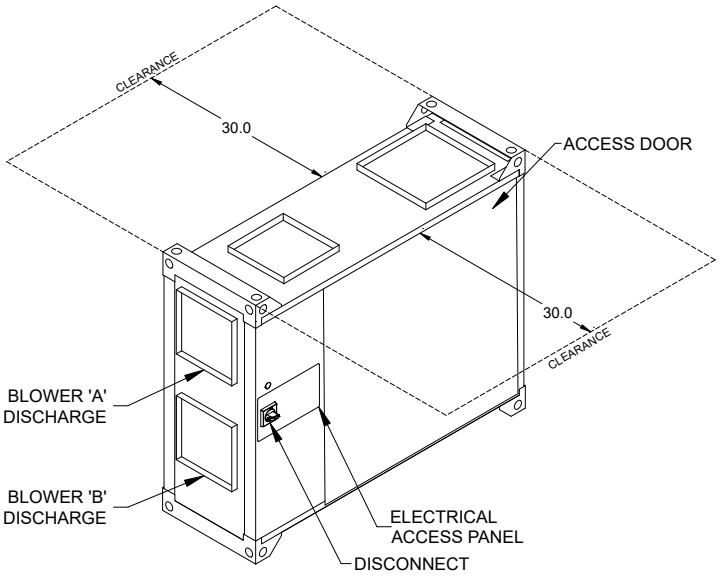
AHRI Performance Ratings

Energy Recovery Performance Rating in accordance with AHRI Standard 1060 (I-P)						
Rated Airflow (SCFM)		Net Supply Airflow (SCFM)	EATR (%)	OACF	Pressure Drop (in. wg)	
Leaving Supply	Entering Exhaust				Supply	Exhaust
629	629	625	0.6	1.02	0.79	0.79

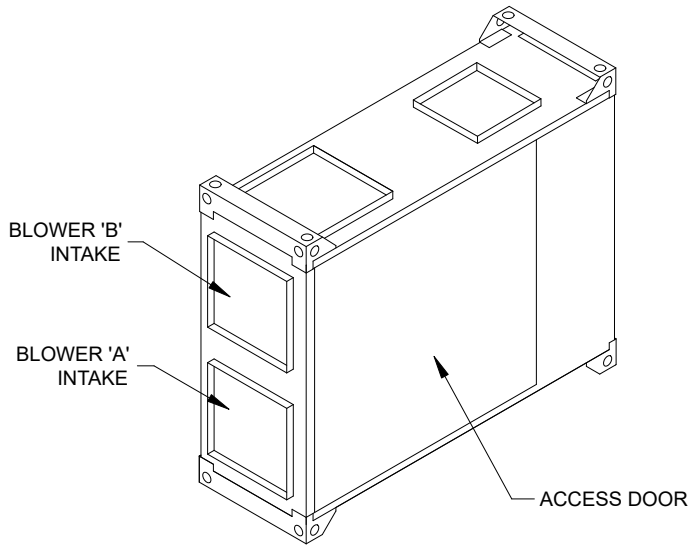
Thermal Effectiveness Ratings							
Enthalpy Recovery Ratio (%)		Sensible Effectiveness (%)		Latent Effectiveness (%)		Total Effectiveness (%)	
Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
50.2	56.6	64.2	61.1	40.2	45.4	49.7	59.3

Note(s)
Summer Design Conditions: Unit is outside of the scope of AHRI ERV Certification Program, and is not AHRI Certified.
Winter Design Conditions: Unit is outside of the scope of AHRI ERV Certification Program, and is not AHRI Certified.
EATR application performance for an indoor mounted unit assumes 85% external static pressure (in. wg.) drop is on the outdoor air discharge.
OACF application performance for an indoor mounted unit assumes 85% external static pressure (in. wg.) drop is on the return air intake.

Isometric Drawings

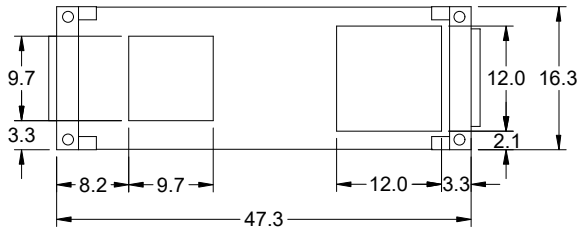


Back Right Isometric

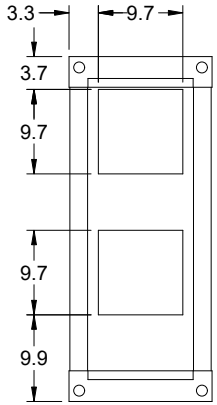


Front Left Isometric

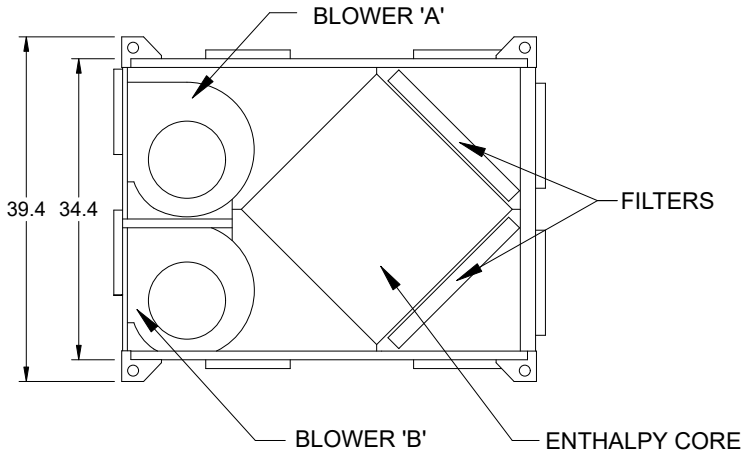
Overview Drawings



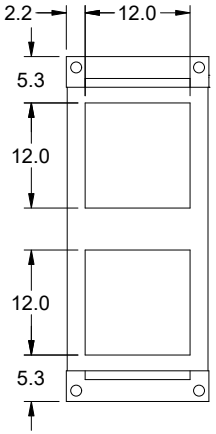
Plan



Left End

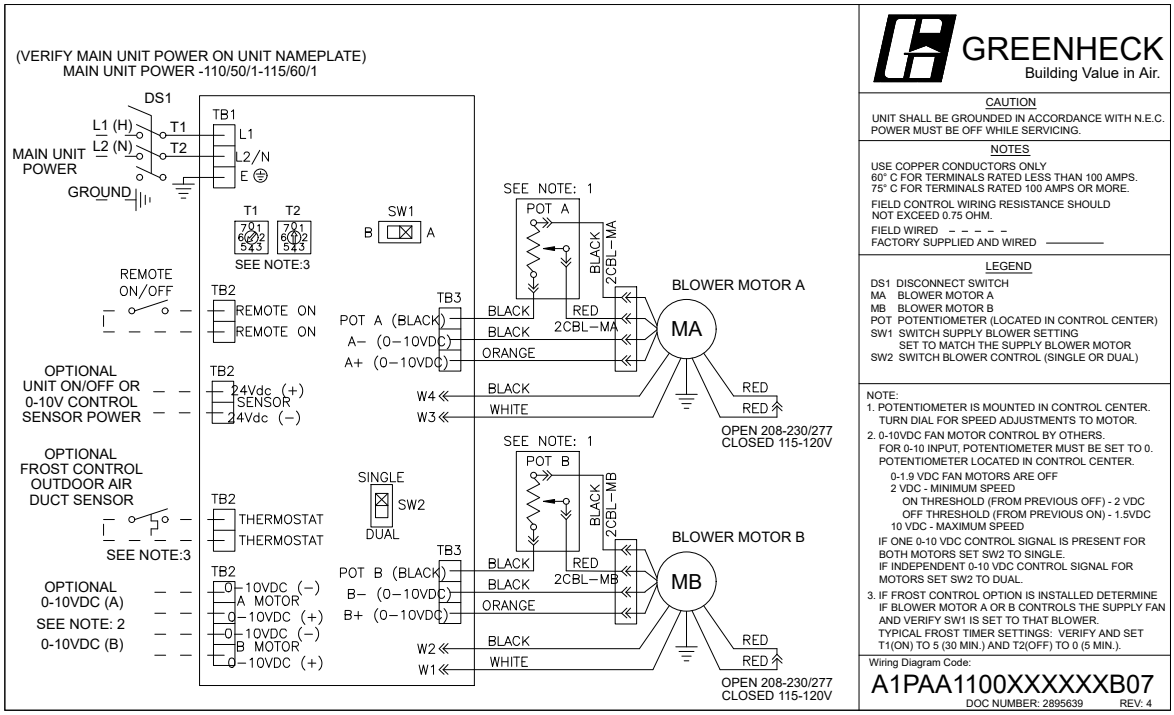


Overview



Right End

Wiring Diagram



GREENHECK
Building Value in Air.

CAUTION

UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES

USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.

FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.

FIELD WIRED – – – – –
FACTORY SUPPLIED AND WIRED ————

LEGEND

DS1 DISCONNECT SWITCH
MA BLOWER MOTOR A
MB BLOWER MOTOR B
POT POTENTIOMETER (LOCATED IN CONTROL CENTER)
SW1 SWITCH SUPPLY BLOWER SETTING
SET TO MATCH THE SUPPLY BLOWER MOTOR
SW2 SWITCH BLOWER CONTROL (SINGLE OR DUAL)

NOTE:
1. POTENTIOMETER IS MOUNTED IN CONTROL CENTER. TURN DIAL FOR SPEED ADJUSTMENTS TO MOTOR.
2. 0-10VDC FAN MOTOR CONTROL BY OTHERS. FOR 0-10 INPUT, POTENTIOMETER MUST BE SET TO 0. POTENTIOMETER LOCATED IN CONTROL CENTER.
   0-1.9 VDC FAN MOTORS ARE OFF
   2 VDC - MINIMUM SPEED
   ON THRESHOLD (FROM PREVIOUS OFF) - 2 VDC
   OFF THRESHOLD (FROM PREVIOUS ON) - 1.5VDC
   10 VDC - MAXIMUM SPEED
   IF ONE 0-10 VDC CONTROL SIGNAL IS PRESENT FOR BOTH MOTORS SET SW2 TO SINGLE.
   IF INDEPENDENT 0-10 VDC CONTROL SIGNAL FOR MOTORS SET SW2 TO DUAL.
3. IF FROST CONTROL OPTION IS INSTALLED DETERMINE IF BLOWER MOTOR A OR B CONTROLS THE SUPPLY FAN AND VERIFY SW1 IS SET TO THAT BLOWER. TYPICAL FROST TIMER SETTINGS: VERIFY AND SET T1(ON) TO 5 (30 MIN.) AND T2(OFF) TO 0 (5 MIN.).

Wiring Diagram Code:
A1PAA1100XXXXXB07
DOC NUMBER: 2895639 REV: 4

Warranty Statement for ERV Preconditioners

Unit Warranty

Greenheck warrants the equipment to be free from defects in material and workmanship for a period of 18 months from the date of shipment. Initial startup must be completed within six months of the shipment date, and a startup report must be submitted to Greenheck.

Total Energy Core Warranty

The enthalpy core is warranted to be free from defects in material and workmanship for a period of 5 years from the shipment date.

Warranty Notes

Any component which proves defective during the warranty period will be repaired or replaced at Greenheck's sole option when returned to our factory, transportation prepaid. All warranties do not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product. These warranties are exclusive and are in lieu of all other warranties, whether written, oral, or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose. No person (including any agent or salesperson) has authority to expand Seller's obligation beyond the terms of this warranty, or to state that the performance of the product is other than that published by Seller.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.