

Exinda Aura HPERV

Ceiling-Ducted Heat Pump Energy Recovery Ventilator

Model: ICMPCGFF1AYE

Heating, Cooling & Fresh Air – One Indoor Unit

Integrated ceiling-ducted heat pump with energy recovery ventilation providing heating, cooling, and fresh air in a single indoor unit. Designed for high-static residential duct systems and high-rise applications.



Rated Cooling Capacity: 12,000 Btu/h

Rated Heating Capacity: 14,000 Btu/h

Outdoor Duct Available ESP: 90 Pa (0.36 in.w.g.)

Indoor Supply Duct Available ESP: 75 Pa (0.3 in.w.g.)

Rated Outdoor Airflow (Cooling): 650 CFM @ 0.36 in.w.g.

Rated Indoor Airflow (Cooling): 400 CFM @ 0.30 in.w.g.

Rated Outdoor Airflow (Heating): 650 CFM @ 0.36 in.w.g.

Rated Indoor Airflow (Heating): 430 CFM @ 0.30 in.w.g.

Key System Features

- **High External Static Pressure (ESP) Capability:** The EXINDA HPERV system is designed with higher available external static pressure to accommodate typical multi-branch residential duct installations and support longer duct runs while maintaining stable airflow performance.
- **No Outdoor Unit Required.** All heating, cooling, and ventilation functions are integrated into a single indoor unit without the need for outdoor condensers.
- **Minimal Exterior Penetrations:** only two small exterior openings are required for outdoor air intake and exhaust, well suited for window wall and high-rise residential buildings.
- **Integrated HVAC Solution:** Provides heating, cooling, and energy recovery ventilation in one integrated system.
- **Designed for High-Rise Applications:** High available static pressure allows the system to serve multiple rooms and longer duct runs, making it suitable for modern apartments and high-rise residential buildings. Typical Applications for high-rise residential apartments, studio and 1-bedroom suites and compact multi-room ducted applications.

Electrical	Value
Voltage / Frequency / Phase	208–240 V / 60 Hz / 1 Ph
Power supply	Hardwired connection
Maximum Electric Heater Capacity	3 kW
Maximum Input Power	4,200 W
MCA (HPERV + Electric heater)	20 A
MOP (Max)	30 A

Compressor type	BLDC Twin-Rotary Inverter
Refrigerant Type / Safety Classification	R32 A2L
Refrigerant Charge	2.17 lb

Sound	General
Sound Pressure Level @ 1 m	46 dB(A)
Sound Pressure Level @ 3 m	41 dB(A)
Note: Sound Pressure Levels are measured at 1 meter and 3 meters from the unit, installed on the ceiling with gypsum board beneath and all piping fully connected in heating high airflow mode.	

Operating Environment	Temperature Range
Heat Pump Compressor Operation	5°F to 109°F
Electric Auxiliary Heat	-31°F to 109°F

Item	Dimensions (W × D × H)	Weight
Product size / Installed weight	46 × 45-11/16 × 11-1/8 in	205 lb
Package size / Shipping weight	52-3/16 × 44-1/16 × 17-3/4 in	338 lb

All specifications are subject to change without notice.

Cooling Performance – Heat Pump Operation (cooling mode)

Outdoor Air Temperature	95°F (35°C) ¹
Cooling Capacity – Rated (Btu/h)	12,000
Input Power (W)	1090
EER (Btu/W)	11.0
- Rating Conditions ¹ Outdoor Air: 95°F DB / 75°F WB; Indoor Air: 80°F DB / 67°F WB - Performance data are based on AHRI / ASHRAE rating conditions unless otherwise noted.	

Heating Performance – Heat Pump Operation (heating mode)

Outdoor Air Temperature	47°F (8°C) ¹	17°F (-8°C) ²	5°F (-15°C) ³
Heating Capacity – Rated (Btu/h)	14,000	7,800	7,165
Input Power (W)	1,687	1,230	1,400
COP (W/W)	2.43	1.86	1.5
- Rating Conditions ¹ Outdoor air: 47°F DB / 43°F WB; Indoor air: 70°F DB / 60°F WB ² Outdoor air: 17°F DB / 13°F WB; Indoor air: 70°F DB / 60°F WB ³ Outdoor air: 5°F DB / 3°F WB; Indoor air: 70°F DB / 60°F WB - Performance data are based on AHRI / ASHRAE rating conditions unless otherwise noted. - Minimum Heating Operation Temperature: The heat pump compressor operates down to 5°F (-15°C) outdoor air temperature. Below this temperature, the compressor is disabled and the unit operates with electric auxiliary heating only (maximum 3 kW) to maintain supply air temperature.			

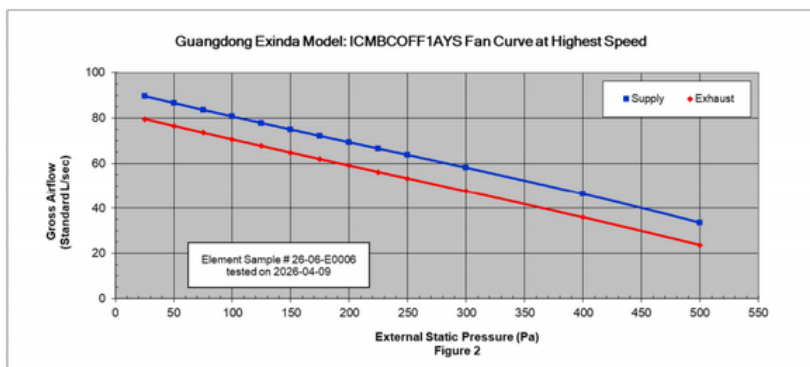
Total Capacity	Btu/h
ERV Recovery @ Heating Mode / Cooling Mode (Btu/h) Heating mode 47°F (8°C) , Cooling Mode 95°F (35°C)	2500@ heating mode 1500@ cooling mode
Total Cooling Capacity HPERV (Combine Heat pump + ERV) Total Cooling capacity 95°F (35°C) (Rated Btu/h)	13500 (12,000 Heat Pump + 1,500 ERV Recovery)
Total Heating Capacity HPERV (Combine Heat pump + ERV) Total Heating capacity 47°F (8°C) (Rated Btu/h)	16500 (14,000 Heat Pump + 2,500 ERV Recovery)

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Energy Recovery Ventilator Technical Specifications (ERV Only)

Model No.	ICMBCOFF1AYS
Outdoor operating temperature range (°F DB)	5 to 109 °F
Airflow (CFM):	42-135
Airflow Rate (HH/H/L) (CFM):	135/90/42
Filter level / Indoor air filter / Qty	MERV 13 / 2 / Non-washable
Filter level / Return air filter / Qty	MERV 4 / 2 / Washable
Filter level / Condenser Filter / Qty	MERV 4 / 1 / Washable
ERV Core / type	Cross-flow heat exchanger / Non-washable
Motor/Drive	ECM brushless motor, digitally controlled
Number of speeds available	3
Defrost Type	Exhaust defrost
Ventilation Compliance	Ventilation performance tested in accordance with CAN/CSA-C439 and HVI rating procedures.

Energy Recovery Ventilator (ERV) Fan Curves – ERV (only)



Energy Recovery Ventilator (ERV) performance – ERV (only)

HEATING	Inlet supply temperature		Net outdoor Airflow		Average power (watts)	Sensible recovery efficiency	Adjusted sensible recovery efficiency	Fan efficacy	
	°C	°F	L/s	scfm				L/s/W	cfm/W
1	0	32	20	42	27	86%	90%	0.74	1.5
2	0	32	43	91	82	73%	80%	0.52	1.1
3	0	32	64	135	145	65%	72%	0.44	0.9
4	-25	-13	19	40	41	67%	70%	-	-
COOLING	Inlet supply temperature		Net outdoor Airflow		Average power (watts)	Total recovery efficiency	Adjusted total recovery efficiency	Apparent effectiveness	Net Moisture Transfer
	°C	°F	L/s	scfm					
1	35	95	20	42	26	67%	69%	84.1%	0.63

Note: "Values on this page represent ERV core ventilation test conditions only and are not the total HPERV heating/cooling airflow shown on pages 5–7." All specifications are subject to change without notice.

Indoor Air System

Item	Specifications
Fan Type	ECM centrifugal
Indoor Fan Speed Control	Low / Medium / High

Indoor Airflow (Supply / Return)

Fan Speed	Airflow – Cooling (CFM)	Airflow – Heating (CFM)	Rated External Static Pressure
High	400	430	75 Pa (0.30 in. w.g.)
Medium	300	350	70 Pa (0.28 in.w.g.)
Low	250	300	60 Pa (0.24 in.w.g.)

- Rating Cooling Conditions: Indoor Air Temperature 80°F DB / 67°F WB, Outdoor Air Temperature 95°F DB / 75°F WB
- Rating Heating Conditions: Indoor Air Temperature 70°F DB / 60°F WB, Outdoor Air Temperature 47°F DB / 43°F WB
- Airflow values vary depending on operating mode.

Typical Indoor Air Duct System Static Pressure Curve

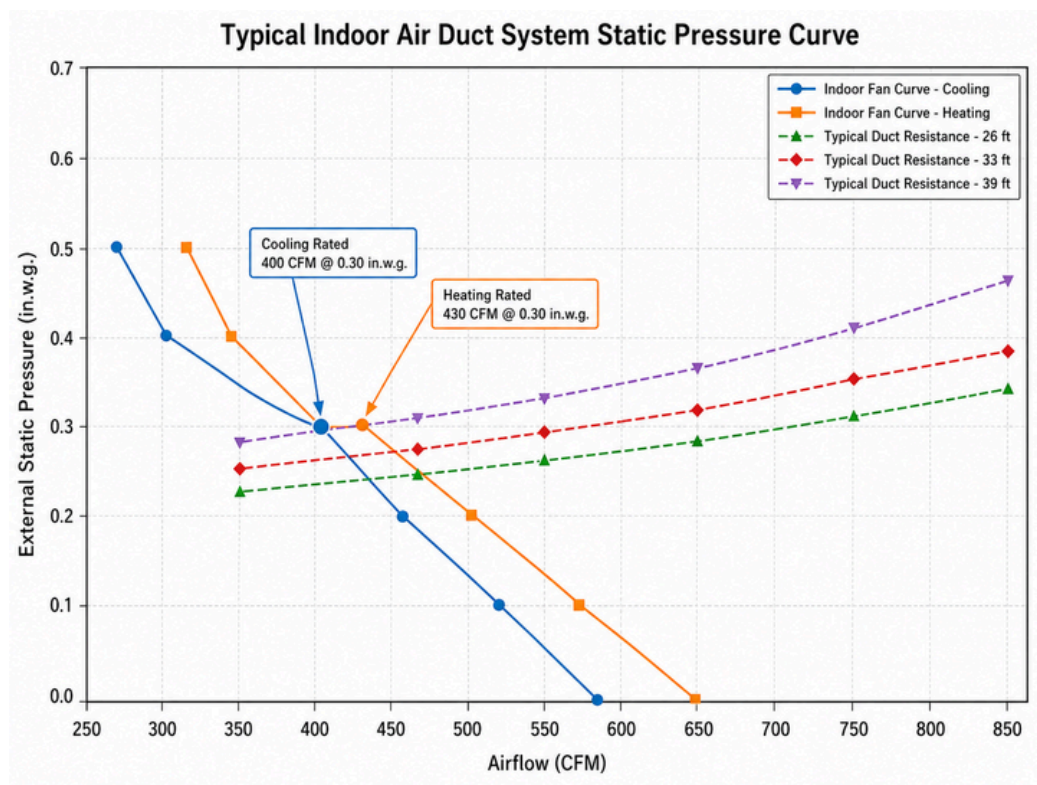
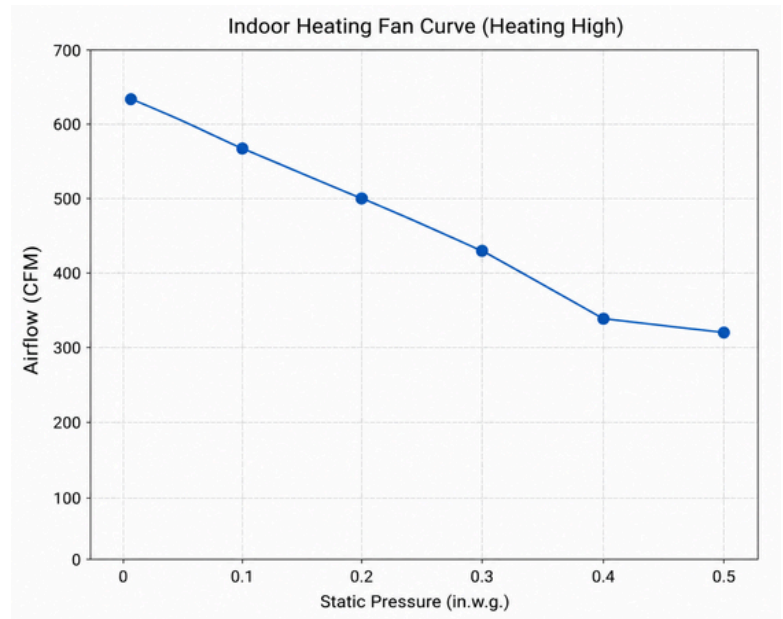


Figure Notes

- Solid curves represent indoor fan performance under cooling and heating operation.
- Dashed curves represent system resistance for different equivalent indoor duct lengths.
- The intersection of the fan curve and duct system curve indicates the actual operating airflow.
- Rated indoor airflow:
 - Cooling 400 CFM @ 0.30 in.w.g external static pressure
 - Heating 630 CFM @ 0.30 in.w.g external static pressure, corresponding to approximately 39 ft equivalent duct length.

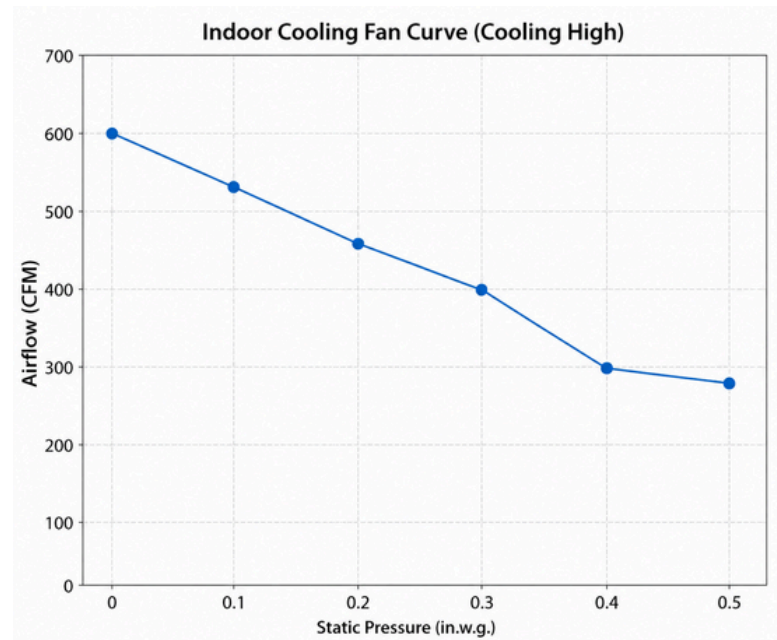
Indoor Airflow - Heating Fan Performance (HPERV)

Static Pressure (Pa)	Static Pressure (in.w.g.)	Heating High (CFM)
125	0.5	320
100	0.4	339
75	0.3	430
50	0.2	500
25	0.1	570
0	0	638



Indoor Airflow - Cooling Fan Performance (HPERV)

Static Pressure (Pa)	Static Pressure (in.w.g.)	Heating High (CFM)
125	0.5	280
100	0.4	300
75	0.3	400
50	0.2	460
25	0.1	530
0	0	600



All specifications are subject to change without notice.

Outdoor Air System

Item	Specifications
Supply / Return Fan Type	ECM centrifugal
Outdoor Air Filter	MERV 4

Outdoor Airflow (Intake / Exhaust)

Operating Mode	Airflow (CFM)	Rated External Static Pressure
Cooling Mode	650	90 Pa (0.36 in. w.g.)
Heating Mode	650	90 Pa (0.36 in. w.g.)

Rating Cooling Conditions: Indoor Air Temperature 80°F DB / 67°F WB, Outdoor Air Temperature 95°F DB / 75°F WB
Rating Heating Conditions: Indoor Air Temperature 70°F DB / 60°F WB, Outdoor Air Temperature 47°F DB / 43°F WB

Typical Outdoor Air Duct System Static Pressure Curve

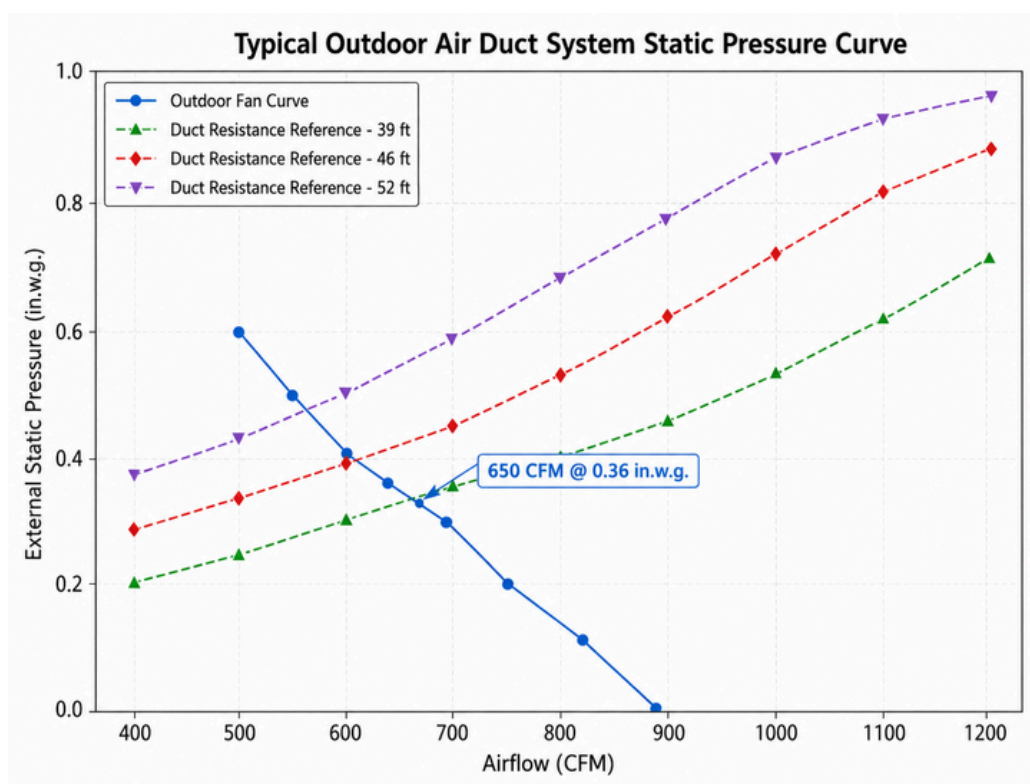


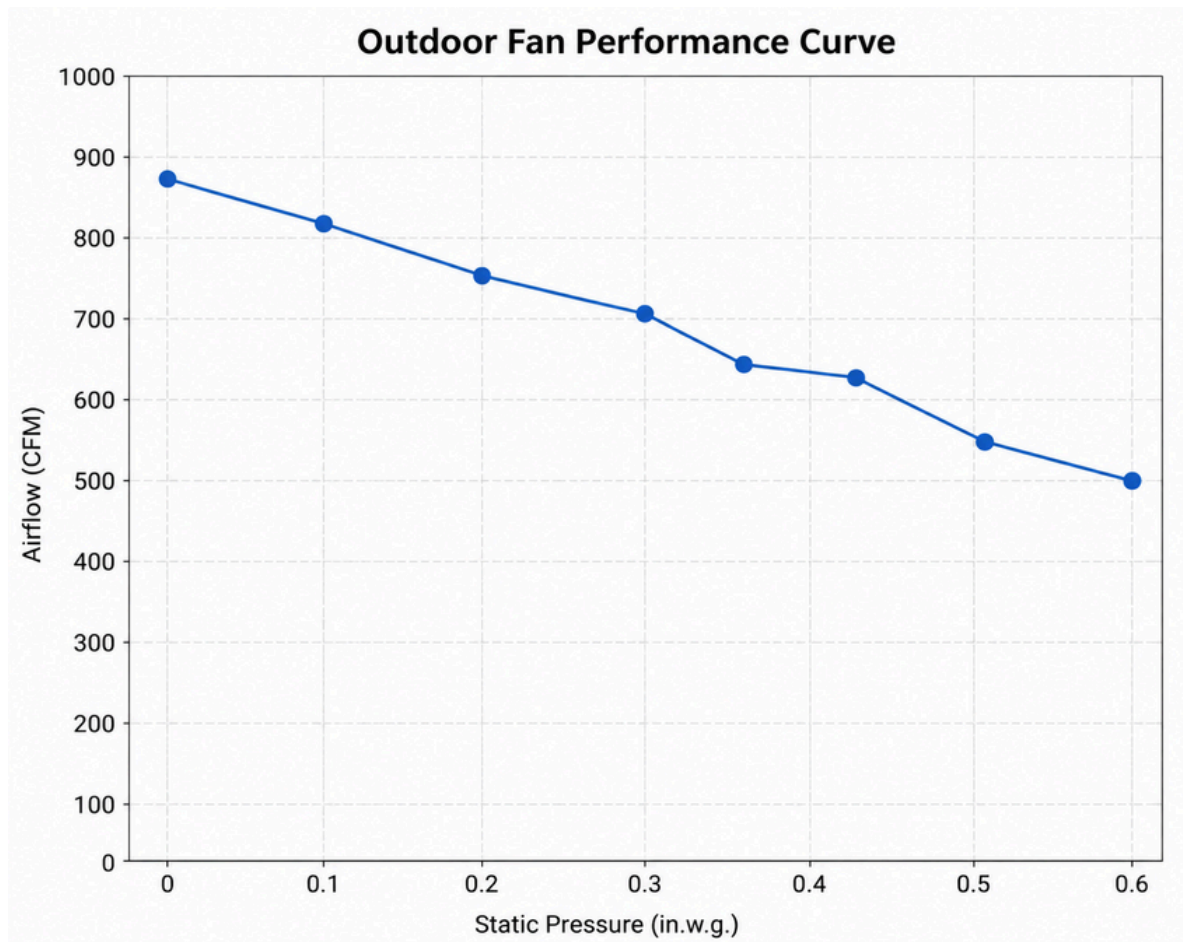
Figure Notes

- Solid curves represent the airflow performance of the outdoor fan under cooling and heating operation.
- Dashed curves represent system resistance for different equivalent outdoor duct lengths.
- The intersection of the fan curve and duct system curve indicates the actual operating airflow.
- Rated outdoor airflow:
Cooling 650 CFM @ 0.36 in.w.g external static pressure.
Heating 650 CFM @ 0.36 in.w.g external static pressure, corresponding to approximately 39 ft equivalent duct length.

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Outdoor Fan Performance Curve

Static Pressure (Pa)	Static Pressure (in.w.g.)	Cooling/Heating Airflow (CFM)
150	0.6	500
125	0.5	550
100	0.4	630
90	0.36	650
75	0.3	710
50	0.2	760
25	0.1	820
0	0	880



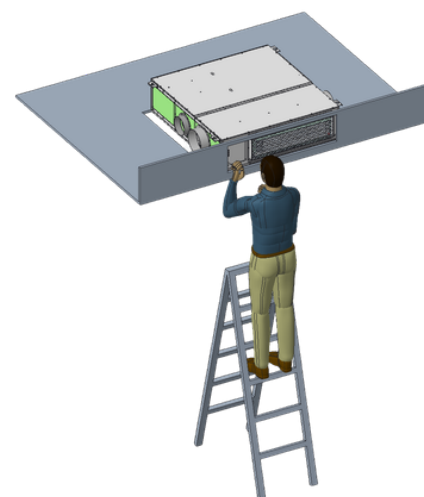
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Typical Duct Pressure Drop Assumptions

Component	Pressure Drop
Straight duct	2 Pa / m
90° elbow	6 Pa
Weather louver / intake hood / Exhaust hood	12 Pa
Balancing damper	8 Pa
Supply diffuser / Louver	30 Pa

Minimum Service Clearance Requirements

Item	Minimum Requirement
Main service access corridor	59-11/16 in minimum
Service opening depth	≥ 22-5/8 in
Air inlet service access opening	16 in × 10 in
Electrical compartment service clearance	≥ 16 in
Filter service access opening	6 in × 9-11/16 in
Side clearance	≥ 2 in



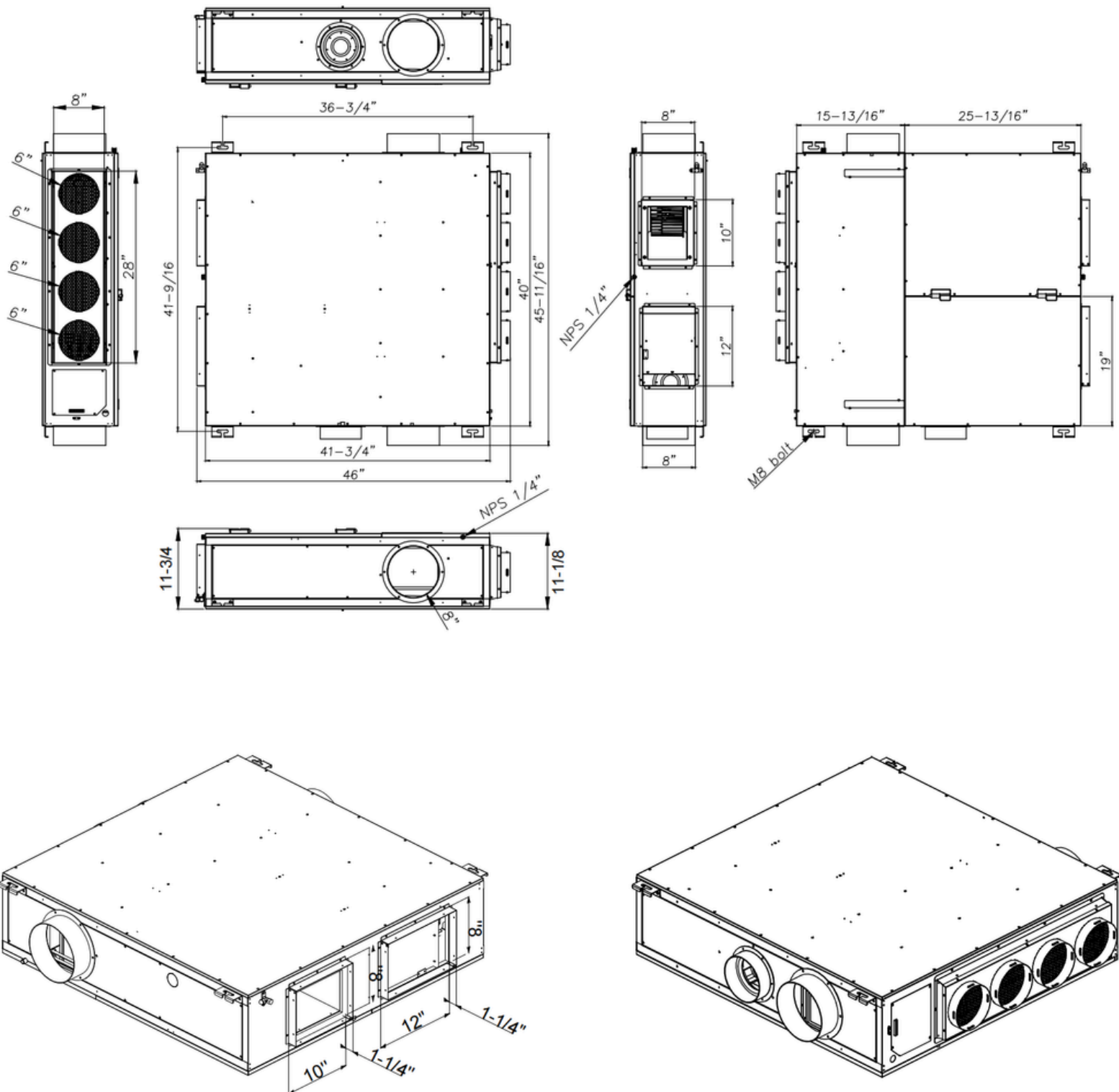
Wall-Mounted Controller (Included)

Item	Specifications
Controller Type	Wall-mounted digital Touch controller
Communication Protocol	Optional WiFi / BACnet
Communication	Low-voltage communication cable
Standard Cable Length	16ft (5m) 26AWG
Maximum Wiring Distance	180ft (55m)



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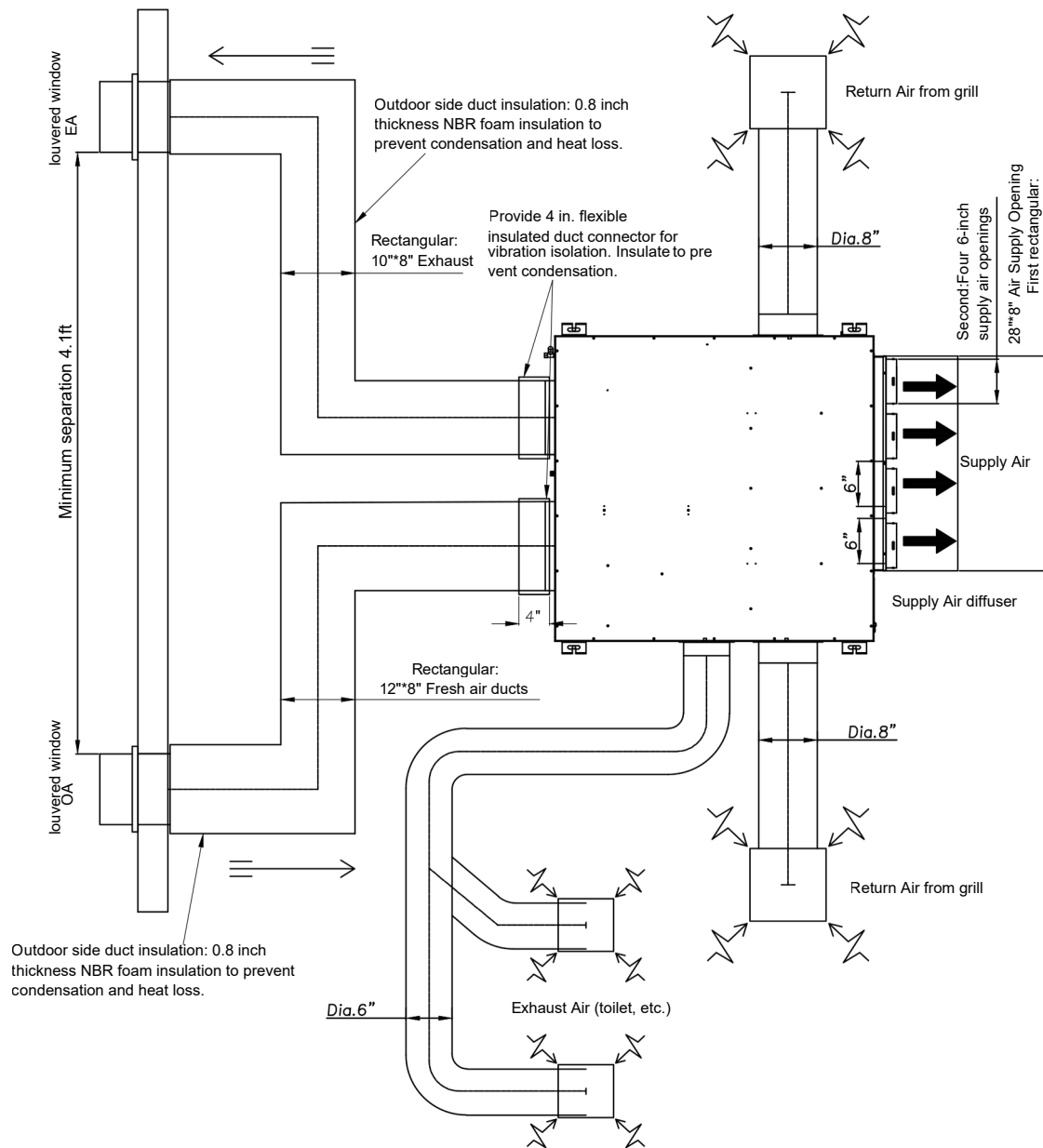
Dimension Drawing



Unit: inch

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Typical Duct Connection Layout

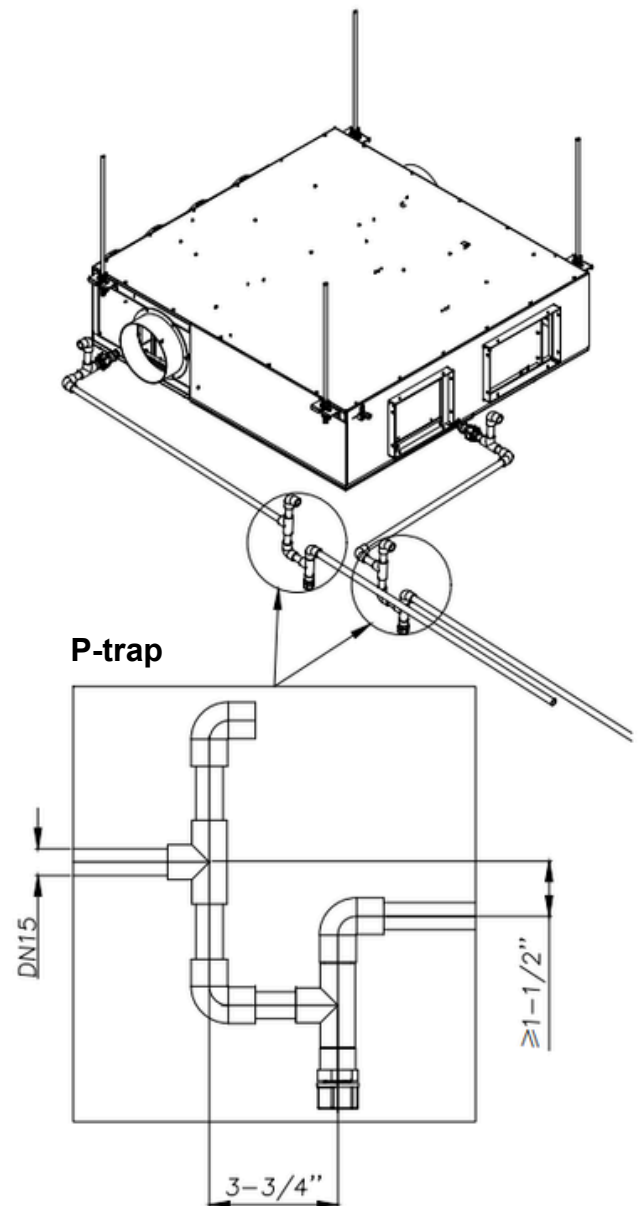
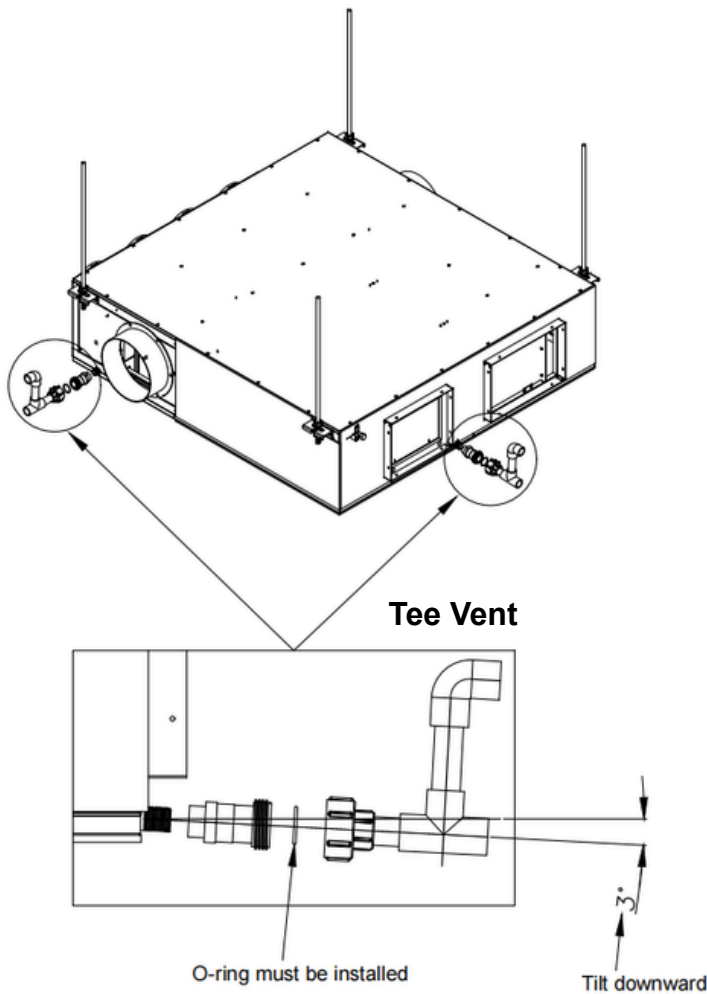


Item	Specifications
Outdoor Air Intake Duct	12" x 8" rectangular
Outdoor Exhaust Duct	10" x 8" rectangular
Minimum Separation Between Intake and Exhaust	4.1 ft minimum
Return Air Duct (from room grille)	Ø8" round
Exhaust Air Duct (bathroom / toilet)	Ø6" round
Supply Air Duct – Option 1	28" x 8" rectangular
Supply Air Ducts – Option 2	4 x Ø6" round
Installation Notes - Outdoor air intake and exhaust ducts shall be insulated with minimum 0.8 in. (20 mm) insulation. - Provide flexible duct connector, approximately 4 in. (100 mm) long, at outdoor air intake and exhaust connections for vibration isolation. Insulate to prevent condensation. - Insulation shall include vapor barrier to prevent condensation. - Outdoor air intake and exhaust openings shall be located to prevent cross-contamination.	

All specifications are subject to change without notice.



All drain piping shall be insulated with insulation thickness of 0.2 in (5 mm)



Item	Dimension / Requirement	Notes
Drain Piping Insulation	Minimum 0.2 in (5 mm) thickness	All drain piping shall be insulated
O-ring	Must be installed	As shown in diagram
Drain Piping Pitch	Tilt downward 3°	Ensures proper drainage
Trap Size	Horizontal width 3-3/4" vertical drop ≥ 1/2"	Follows diagram minimum requirements
Drain Connection	DN15 Pipe diameter	As shown in the diagram

- Ensure a consistent 3° slope for proper drainage.
 - The P-trap does not need to be directly connected to the unit and can be installed with an extension pipe.
- For extension pipe ≤ 40" (~1 meter / 3.3 feet): No Tee Vent is required.
- For extension pipe > 40" up to 160" (~4 meters / 13.3 feet) max: A Tee Vent must be installed to ensure proper drainage.

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