Preliminary Data

MULTI MFG

INTEGRATED DUAL DUCT HEAT PUMP

WALL MOUNTED

CEILING DUCTED

CEILING SUSPENDED

VERTICAL STACK

MAIRHP 2026-V1.0

MULTI MFG

Quality products; Sustainable solutions; Superior service

This document is dedicated to those looking for advanced and specialized solutions for heating, cooling, domestic hot water, air-conditioning, renewal and purification of air in the residential area.

Our systems are designed to increase the comfort level in the places where we live or work, including but not limited to single-family homes,multi-family facilities, hospitality,or other applicable installations.

Our double-duct heat pumps will provide year round comfort, focused on substantial energy savings, outside air for ventilation, and a reduction in CO_2 emissions.

CONTENTS

ABOUT MFG

OUR BUSINESS PHILOSOPHY IS SIMPLE

Our success is entirely dependent on our ability to contribute to our customers' success.

WE STRIVE TO:

1. Manufacture the highest quality product available.
2. Design high efficiency product, with common sizes and styles that can be installed in retrofit or new construction projects.
3. Offer product with thorough and thoughtful design, with features that make it easier to install and service our product.
4. Provide the best customer service and customer support experience.

With our 25+ years' experience in the Multi-family Residential Industry, we integrate recommendations and ideas given to us by our Architects, Specifying Engineers and Mechanical Contractors into the design of our product. We listen to our customers and are constantly looking for ways to improve product for our industry.

Our goal is to manufacture the highest efficiency product, with the best customer service and product support.

MULTI MFG


Research & development


Manufacturing


Sales
SALES
RCS


Service Center

Double-duct Heat Pump

An air-cooled commercial packaged heat pump designed for indoor installation. Available as either a horizontal single-package unit or a vertical unit (consisting of two connected components), it utilizes ducting to circulate outdoor air to and from the building exterior.

Note: These non-weatherized components are strictly for indoor use and are not marked/listed for outdoor compliance (UL 1995/ CSA C22.2 No.236, UL60335-2-40).

• No Outdoor Unit Required

This system eliminates the need for an external unit, freeing up valuable space on rooftops or the ground and simplifying building integration.

• Plug-and-Play Installation

A true "package heat pump" combining heating, cooling, ventilation, and heat recovery are in one box. Just connect the ducts and power, and the unit is ready to work.

• Smart Modulation

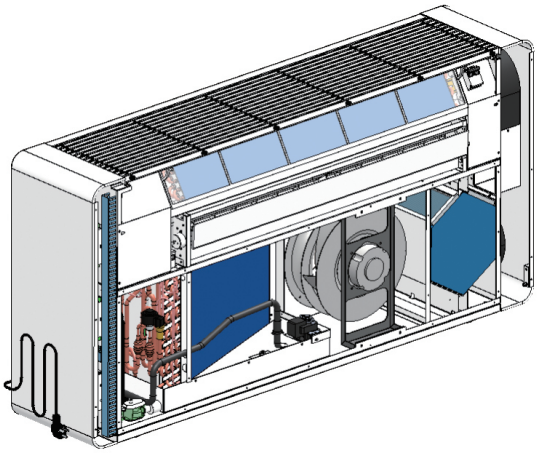
All models feature next-generation R32 refrigerant for sustainable, high-efficiency cooling and heating.

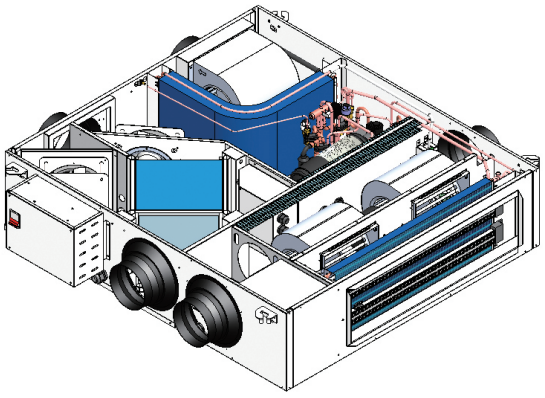
• Eco-Friendly Design

Advanced DC inverter compressors and EC fans automatically adjust to your specific heating and cooling needs, saving energy and improving comfort.

• Built for Cold Climate

Equipped with EVI technology, these units deliver high-efficiency heating even in temperatures as low as 5°F, ensuring you stay warm with fewer defrost interruptions.





EVI (Enhanced Vapor Injection) to achieve high heating performance

MAIRHP serial heat pumps are limited by unit compact design and exhaust air flow volume, the units are easy to frost on the evaporator in heating mode. In order to allowing it to efficiently extract heat and provide warmth even when outdoor temperatures drop to 5°F or lower, MAIRHP serial heat pumps are equipped with a set of EVI elements, which injecting a portion of vaporized refrigerant into the compressor at an intermediate stage, increasing capacity, and using an economizer to supercool the liquid refrigerant for better heat exhaust.

EVI technology lies in its intelligent modification of the standard refrigeration cycle. By adding a simple but effective secondary circuit, it "turbocharges" the heat pump's ability to work in conditions that would otherwise cripple a conventional unit. This enhancement directly addresses the physical limitations of refrigerants at low temperatures, resulting in more robust performance, better efficiency, and greater reliability.

EVI process can be broken down into a few key steps that occur within the refrigerant circuit. It essentially creates a more efficient, two-stage compression process within a single compressor.

1.Refrigerant Split: After leaving the condenser, the high-pressure liquid refrigerant is split into two paths. The main portion (around 80%) proceeds as normal toward the primary expansion valve, while a smaller portion (around 20%) is diverted into a separate EVI circuit.

2.The Economizer (Sub-Cooling Heat Exchanger): The diverted refrigerant passes through an auxiliary electronic expansion valve, causing its pressure and temperature to drop significantly. It then flows into a small plate heat exchanger known as an "economizer."

3.Heat Exchange: Inside the economizer, the cold, low-pressure diverted refrigerant absorbs heat from the main flow of liquid refrigerant. This has two critical effects:

- Sub-cooling the Main Flow: The main refrigerant flow becomes significantly colder before it enters the evaporator. A colder refrigerant can absorb much more heat energy from the frigid outside air, which is the key to boosting heating capacity.
- Creating Vapor for Injection: The diverted refrigerant, having absorbed heat, turns into a vapor.

4.Vapor Injection: This newly created vapor is injected directly into a special port on the scroll compressor at an intermediate point in the compression cycle.

5.Boosting Compressor Performance: This injection of mid-pressure vapor cools the compressor, reducing discharge temperatures and preventing overheating. It also boosts the mass flow rate of the refrigerant, allowing the system to produce more heat with proportionally less power.

This entire process enables the heat pump to maintain high heating output and a superior Coefficient of Performance (COP) even when the outdoor temperature plummets

Feature	Traditional Air Source Heat Pump	EVI Air Source Heat Pump
Operating Temperature Range	Efficiency drops significantly below 32°F (0°C); ineffective below ~17°F (-8.3°C).	Maintains high efficiency and capacity down to 5°F (-15°C) or lower.
Heating Capacity in Cold	Decreases by 30-40% or more as temperatures drop.	Stable heating output even in deep freezes.
Coefficient of Performance (COP)	COP can fall to 1.5-2.0 in cold weather.	Can maintain a COP of 3.0+ in much colder conditions.
System Complexity	Standard single-stage compression cycle.	Quasi-two-stage compression with vapor injection.
Compressor Stress	Higher discharge temperatures and more stress on the compressor in the cold.	Lower discharge temperatures reduce compressor strain, enhancing longevity.
Environmental Impact	More likely to rely on less efficient backup heat, increasing energy use.	Reduces the need for auxiliary heat, lowering overall energy consumption and carbon footprint.

Intelligent Heat Pump to block performance cheating space

MAIRHP serial heat pumps from MFG gives you unprecedented visibility into your equipment. Intelligent Heat Pump provides direct access to hundreds of data points on one unit all in real time. No other solution gives you the freedom and control to monitor and manage your equipment as deeply, freely, accurately, and efficiently. Not even a building automation system.

It is fully compatible with BAS; if you have a BAS, you can still benefit from it. But it's also unique: Intelligent HP is an equipment solution, not a building solution. By working at the unit level, It provides several distinct benefits over a BAS, without expensive additional programming

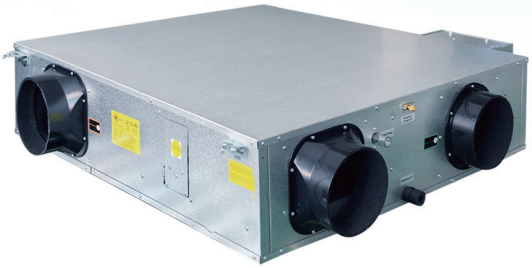
	Intelligent Heat Pump	Building Automation System
Preventative unit maintenance	Included	Not available
Unit Diagnostics	Notifies you of the exact issue	Limited to general alarm data points
Energy consumption	Power modular based on your selection; If selected, Energy consumption can be read directly.	Requires a custom metering solution
Energy supply	Can be read or calculated based on basic thermodynamic theory	Requires a custom metering solution
Data trending	Trend any point back to unit start up; decide what to trend at any point in lifecycle	Trend only the points in stored memory without custom programming; must decide what you want to trend before you can measure it
Cost	Plug and Play capability eliminates traditional BAS engineering, design, and installation costs	Requires higher costs for programming, design, and installation
Integration for new units	Pre-configured at factory and ready to turn on at commissioning; plug and-play installation saves time and money, and allows equipment to be immediately accessed for start-up and commissioning.	Must be engineered at site during commissioning; access to data is not available during equipment startup and commissioning.

Example of ten Valuable Data Points Available in a 300-Point Inspection

1. Energy Consumption if selected;
2. Temperatures
3. Pressures
4. Hours Per Start
5. Run Hours
6. Setpoints
7. Unit Operation
8. Alarm Limits
9. Alarm Review
10. Recommendations

INTEGRATED DUAL DUCT HEAT PUMP

MAIRHP-35-CS(ERV)



MAIRHP-35-CC(ERV)

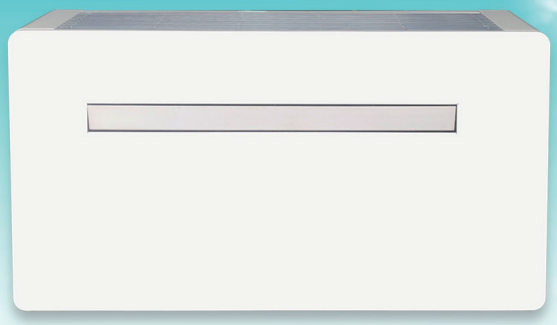
MAIRHP-35-VK(ERV)

MAIRHP-35-WM-ERV

MAIRHP-35-WM

WALL MOUNTED

- MAIRHP-35-WM



- MAIRHP-35-WM-ERV

The MAIRHP Double Duct Wall-Mounted heat pump is engineered for versatility and rapid deployment. Its slim, low-profile chassis allows for flexible positioning-high or low-using the included factory bracket.

Engineered for Difficult Installs:

• Zero Construction

Specialized adapters allow for perpendicular installation to exterior walls or venting through existing window frames, bypassing the need for structural modifications.

• High Static Pressure

Equipped with a high-performance exhaust fan (0.3" WC ESP), providing the static pressure required for complex venting runs without sacrificing efficiency.

• Customizable Comfort

Features an integrated auto-swing louver for uniform air distribution and an optional ERV module for enhanced ventilation requirements.

• Powerful Efficiency

Built with high-efficiency components to keep your utility bills low while providing powerful, reliable airflow.

Indoor Supply air

Supply air is provided an electronically controlled louver that can be set at any angle or continuously swinging.

Indoor Return air

Return air from the space enters the unit through the integral grille located on top of the unit.

Outside air intake

The 8-inch round outside air intake connection can be ducted or used with an adapter with up to 0.3" WC external static pressure (combined between intake and exhaust). The connection flexible hoses or wall sleeves must be insulated well. Use with any approved or custom louvers/ as long as they comply with the minimum requirement.

Outside air exhaust

The extremely powerful 1800 RPM ECM backward inclined exhaust fan protrudes from the rear of the unit by 2-8" inches; this is designed to sit inside the duct or adapter. Use with any of the approved or custom louvers/as long as they comply with the minimum requirements.

ERV Ventilation

Stale air is extracted from indoor return air right side, then passes through heat exchanger core, and is mixed with outside air to passing through coil.

Fresh air is extracted from outside air, then passes through heat exchanger core, and is pushed return air on the left side.

Key Features

Compact unit
Easy to install
Paintable sleek cabinet
Electronically controlled air louver
Auto-restart
Washable filters
220V /1Ph /60Hz or 115V /1Ph /60Hz
R32 refrigerant

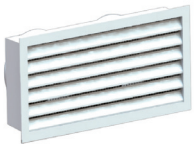
Operation

- Cool mode, heat mode, and auto mode
- Selectable fan speeds, low, med, high and auto
- Fresh air ERV - field configurable amount of fresh air

User Interface

- Touch electronic wall-mounted control panel
- Remote handset

Accessories

Item	product-name	product codes	product-model	Photo
1	Double horizontal linear louver assembly	MAIRHP-LWS-001	WM-H-D-LLA	
2	Single horizontal linear louver assembly	MAIRHP-LWS-002	HP-H-S-LLA	
3	Single Vent Hood assembly	MAIRHP-LWS-003	HP-S-SVH	
4	Wall sleeve-thickness 4"	MAIRHP-LWS-004	WM-WS-SVH	
5	Wall sleeve-thickness 4"	MAIRHP-LWS-005	WM-WS-LLA	
8	Double horizontal linear louver assembly	MAIRHP-LWS-008	WM-PTAC-LLA	
9	PTC for wall mounted	IPA-MAIRHP-WM-eHeater-001	MAIRHP-WM-eHeater-2.0KW	
10	RCS manager II touch screen pad	RCS-WWP-BAC-4.3	RCS-WWP-BAC-4.3	

Integrated Dual Duct Heat Pump

Specifications

Model	Unit	MAIRHP-35-WM
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0
Total Cooling capacity at Full Speed [1]	Btu/hr	12000
Sensible Cooling capacity at Full Speed [1]	Btu/hr	8500
Air Flow Volume (wet) at Full Speed [1]	CFM	340
Total Input power at Full Speed [1]	W	1150
Energy Efficiency Ratio at Full Speed [1]	EER	10.43
Total Cooling capacity at Full Speed [2]	Btu/hr	14100
Sensible Cooling capacity at Full Speed [2]	Btu/hr	9700
Air Flow Volume (wet) at Full Speed [2]	CFM	340
Total Input power at Full Speed [2]	W	1120
Energy Efficiency Ratio at Full Speed [2]	EER	12.59
Seasonal Energy Efficiency Ratio	SEER2	16.5
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.12 in.wg.	

Model	Unit	MAIRHP-35-WM
Heating capacity at Full Speed[1]	Btu/hr	12500
Air Flow Volume at Full Speed[1]	CFM	420
Total Input power at Full Speed [1]	W	1090
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.36
Heating capacity at Full Speed [2]	Btu/hr	10800
Air Flow Volume at Full Speed[2]	CFM	420
Total Input power at Full Speed [2]	W	1000
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.16
Heating capacity [3]	Btu/hr	6500
Air Flow Volume [3]	CFM	272
Total Input power [3]	W	940
Coefficient of Performance [3]	C.O.P (W/W)	2.02
Heating capacity [4]	Btu/hr	5500
Air Flow Volume [4]	CFM	260
Total Input power [4]	W	900
Coefficient of Performance [4]	C.O.P (W/W)	1.79
Heating Seasonal Performance Factor	HSPF2	8.7
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.12 in.wg.	

Specifications

Model	Unit	MAIRHP-35-WM-ERV
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0
ERV Fresh Air Volume	SCFM	60
ERV Exhaust Air Volume	SCFM	60
ERV core type	Counter-flow	
ERV core type material	Polymer membrane	
Fresh air filter efficiency	Merv13	
Exhaust air filter efficiency	Merv8	
Total Cooling capacity at Full Speed [1]	Btu/hr	12800
Sensible Cooling capacity at Full Speed [1]	Btu/hr	9100
Air Flow Volume (wet) at Full Speed[1]	CFM	340
Total Input power at Full Speed [1]	W	1170
Energy Efficiency Ratio at Full Speed [1]	EER	10.94
Total Cooling capacity at Full Speed [2]	Btu/hr	14500
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10000
Air Flow Volume (wet) at Full Speed [2]	CFM	340
Total Input power at Full Speed [2]	W	1140
Energy Efficiency Ratio at Full Speed [2]	EER	12.72
Seasonal Energy Efficiency Ratio	SEER2	16.7
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.12 in.wg.	

Model	**Unit**	**MAIRHP-35-WM-ERV**
Heating capacity at Full Speed[1]	Btu/hr	13100
Air Flow Volume at Full Speed[1]	CFM	420
Total Input power at Full Speed [1]	W	1050
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.65
Heating capacity at Full Speed [2]	Btu/hr	11600
Air Flow Volume at Full Speed[2]	CFM	420
Total Input power at Full Speed [2]	W	1000
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.39
Heating capacity [3]	Btu/hr	7100
Air Flow Volume[3]	CFM	280
Total Input power [3]	W	950
Coefficient of Performance [3]	C.O.P (W/W)	2.18
Heating capacity [4]	Btu/hr	6000
Air Flow Volume[4]	CFM	260
Total Input power [4]	W	920
Coefficient of Performance [4]	C.O.P (W/W)	1.91
Heating Seasonal Performance Factor	HSPF2	8.9
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
***1 $H1_{Full}$**	47.0/43.0	70.0/60.0
***2 $H2_{Full}$**	35.0/33.0	70.0/60.0
***3 $H3_{Full}$**	17.0/15.0	70.0/60.0
***4 $H4_{Full}$**	5.0/4.0	70.0/60.0
Exhaust Air ESP	0.12 in.wg.	

Integrated Dual Duct Heat Pump

Specifications

Electrical

General		220V	115V
Voltage range		200~251	100~126
Hz/ phase		60/single	
Power supply		LCDI power cord	
Power factor		0.96	
Total power input (max) heat pump only	W	1250	1250
Total running current (max) heat pump only	A	5.92	11.3
MCA - heat pump only	A	7.0	13.0
MOCP- heat pump only	A	12	25
Input power (standby)	W	38 (30W crankcase e-heater) in Summer;	
Compressor (DC invertor)	W	1050	1050
	RLA	4.8	9.6
	LRA	4.8	9.6
Indoor ECM fan motor	W(max)	31W at rated air flow	
	Apparent Current (A)	0.29	0.58
outdoor DC fan motor (24Vdc)	W(max)	125	125
	Current (A)	5.2	5.2
Fresh Air DC fan motor (24Vdc)	W(max)	30	30
	Current (A)	0.83	0.83
Exhaust Air DC fan motor (24Vdc)	W(max)	40	40
	Current (A)	1.66	1.66

Compressor		
Type		BLDC inverter
Refrigerant	Type	R32
Oil	OZ	21.87

Sound Power Noise Level data

Unit Model: MAIRHP-35-WM										
Rated Cooling Capacity	A weighted Sound Power Level	Octave-bands Frequency Hz								
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	dB(A)	Sound Power in 1/3 Octave-bands								
12000	60.7	23.2	38.8	48.2	50.5	50.0	46.1	41.8	32.4	23.8

Sound Pressure Noise Level data

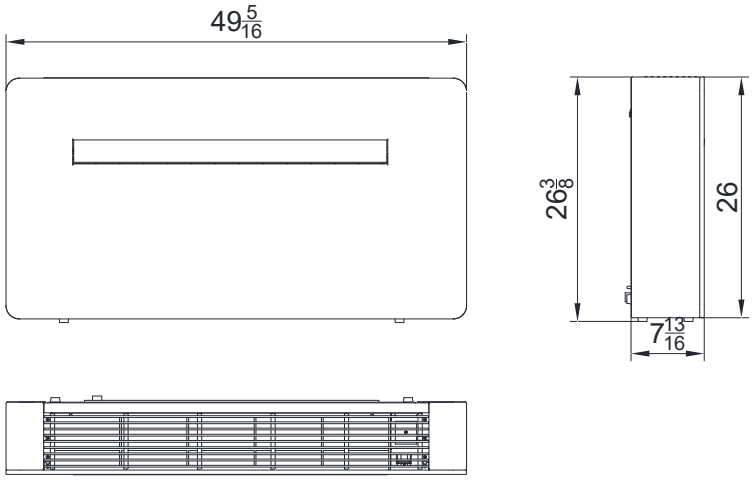
Unit Model: MAIRHP-35-WM										
Rated Cooling Capacity	A weighted Sound Pressure Level	Octave-bands Frequency Hz								
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	dB(A)	Sound Power in 1/3 Octave-bands								
12000	51.2	13.7	29.3	38.7	41.0	40.5	36.6	32.3	22.9	14.3

Exhaust Air Flow VS ESP

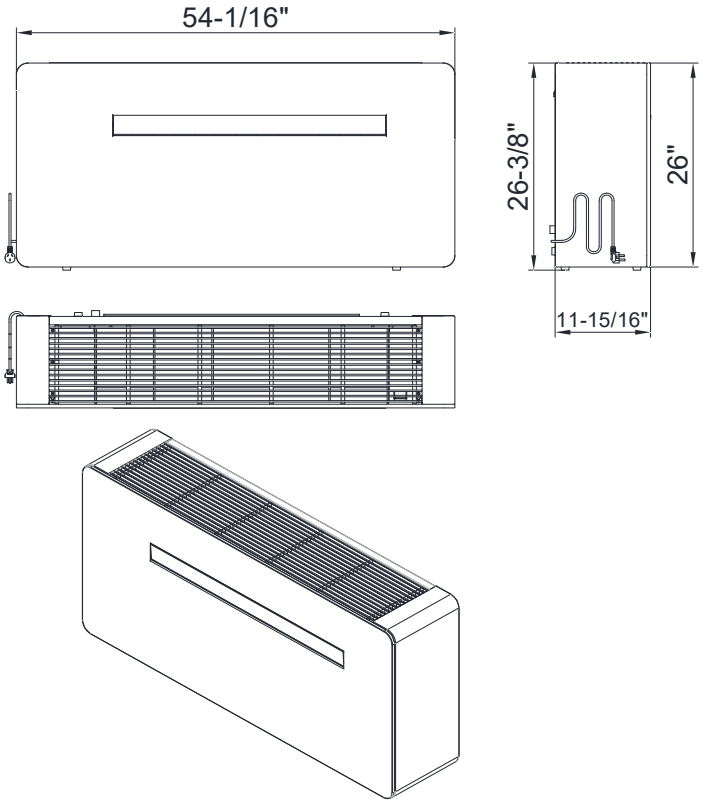
Maximum	AIR FLOW (CFM) VS EXTERNAL STATIC PRESSURE				
Air Flow (CFM)	469	458	447	438	429
ESP(in.wg)	0	0.06	0.12	0.16	0.2
Power Input(W)	146	147	147	148	148

Dimensional drawings

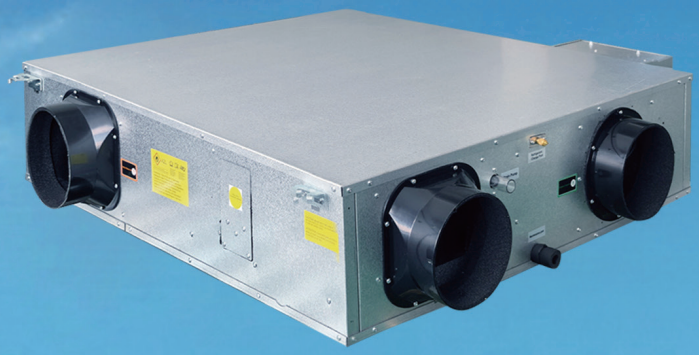
MAIRHP-35-WM W/O Dimensions



MAIRHP-35 With ERV Dimensions



CEILING DUCTED



- MAIRHP-35-CC
- MAIRHP-35-CC-ERV

Ceiling Ducted Overview

Ceiling Ducted can be discreetly installed above a ceiling and is ideal for single or multi-room applications. The return can be from the sides or the bottom for maximum flexibility. With up to 0.5" WC external static pressure, this unit can be used where ducting is required. Use with any interior grille and louver to provide additional design flexibility. A bathroom exhaust can connect to the dedicated stale air exhaust. Ceiling Ducted units are available with or without the integrated ERV.

Ventilation

Indoor Return Air from Bottom

The bottom 8” x 29.2” return is designed to be used with a ceiling-mounted return grille or an access panel with an integrated return grille

Indoor Return Air from sides

The left and right side 8” round connection can be ducted to one or more rooms with up to 0.5” external static pressure (combined between return and supply). It can also be left open as a side plenum return. Duct both, leave both open or duct one, and leave one open to a plenum.

Stale air exhaust

The 6” round stale air exhaust connection can be used as part of a plenum return without any ducting or can be ducted to a bathroom or multiple locations with up to 0.3” WC external static pressure. If configuring Ceiling Ducted with a bottom return, the stale air can also be pulled from the bottom return

Indoor Supply Air

The rectangular 8” H x 27.6” W supply air connection is ideal for a supply grille or ducting, with up to 0.5” external static pressure (combined between return and supply).

Outside air intake

The single 8” round outside air intake connection provides air for the condenser portion and fresh air for ventilation. This can be ducted with up 0.3” WC external static pressure (combined between intake and exhaust)

Outside air exhaust

The single 8” round outside air exhaust connection is for the condenser portion and the stale air exhaust. This can be ducted with up 0.3” WC external static pressure (combined between intake and exhaust)

Key Features

Compact unit
Easy to install
Auto-restart
Washable filters
220V /1Ph /60Hz or 115V /1Ph /60Hz
R32 refrigerant

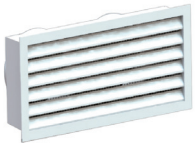
Operation

Cool mode, heat mode, and auto mode
Selectable fan speeds, low, med, high and auto
Fresh air ERV - field configurable amount of fresh air

User Interface

Touch electronic wall-mounted control panel
Remote handset

Accessories

Item	product-name	product codes	product-model	Photo
1	Double horizontal linear louver assembly	MAIRHP-LWS-001	WM-H-D-LLA	
2	Single horizontal linear louver assembly	MAIRHP-LWS-002	HP-H-S-LLA	
3	Single Vent Hood assembly	MAIRHP-LWS-003	HP-S-SVH	
4	PTC for wall mounted	IPA-MAIRHP-CC-eHeater-001	MAIRHP-CC-eHeater-2.0KW	
5	PTC for wall mounted	IPA-MAIRHP-CC-eHeater-001	MAIRHP-CC-eHeater-4.0KW	
6	RCS manager II touch screen pad	RCS-WWP-BAC-4.3	RCS-WWP-BAC-4.3	

Specifications

Model	Unit	MAIRHP-35-CC
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0.2
Total Cooling capacity at Full Speed[1]	Btu/hr	12600
Sensible Cooling capacity at Full Speed [1]	Btu/hr	8800
Air Flow Volume (wet) at Full Speed[1]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [1]	W	1210
Energy Efficiency Ratio at Full Speed [1]	EER	10.43
Total Cooling capacity at Full Speed [2]	Btu/hr	14800
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10100
Air Flow Volume (wet) at Full Speed [2]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [2]	W	1180
Energy Efficiency Ratio at Full Speed [2]	EER	12.54
Seasonal Energy Efficiency Ratio	SEER2	16.4
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.3 in.wg.	

Model	Unit	MAIRHP-35-CC
Heating capacity at Full Speed[1]	Btu/hr	13100
Air Flow Volume at Full Speed[1]	CFM	420 @0.3in.wg.
Total Input power at Full Speed [1]	W	1150
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.34
Heating capacity at Full Speed [2]	Btu/hr	11300
Air Flow Volume at Full Speed[2]	CFM	420@0.3in.wg.
Total Input power at Full Speed [2]	W	1050
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.15
Heating capacity [3]	Btu/hr	6800
Air Flow Volume[3]	CFM	272 @0.3in.wg.
Total Input power [3]	W	990
Coefficient of Performance [3]	C.O.P (W/W)	2.01
Heating capacity [4]	Btu/hr	5700
Air Flow Volume[4]	CFM	260 @0.3in.wg.
Total Input power [4]	W	950
Coefficient of Performance [4]	C.O.P (W/W)	1.76
Heating Seasonal Performance Factor	HSPF2	8.58
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.3 in.wg.	

Specifications

Model	Unit	MAIRHP-35-CC-ERV
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0.2
ERV Fresh Air Volume	SCFM	60
ERV Exhaust Air Volume	SCFM	60 @0.3in.wg.
ERV core type	Counter-flow	
ERV core type material	Polymer membrane	
Fresh air filter efficiency	Merv13	
Exhaust air filter efficiency	Merv8	
Total Cooling capacity at Full Speed[1]	Btu/hr	13400
Sensible Cooling capacity at Full Speed [1]	Btu/hr	9600
Air Flow Volume (wet) at Full Speed[1]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [1]	W	1230
Energy Efficiency Ratio at Full Speed [1]	EER	10.89
Total Cooling capacity at Full Speed [2]	Btu/hr	15200
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10500
Air Flow Volume (wet) at Full Speed [2]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [2]	W	1200
Energy Efficiency Ratio at Full Speed [2]	EER	12.67
Seasonal Energy Efficiency Ratio	SEER2	16.6
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.3 in.wg.	

Model	Unit	MAIRHP-35-CC-ERV
Heating capacity at Full Speed[1]	Btu/hr	13700
Air Flow Volume at Full Speed[1]	CFM	420 @0.3in.wg.
Total Input power at Full Speed [1]	W	1120
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.58
Heating capacity at Full Speed [2]	Btu/hr	12100
Air Flow Volume at Full Speed[2]	CFM	420 @0.3in.wg.
Total Input power at Full Speed [2]	W	1080
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.28
Heating capacity [3]	Btu/hr	7400
Air Flow Volume[3]	CFM	280 @0.3in.wg.
Total Input power [3]	W	1000
Coefficient of Performance [3]	C.O.P (W/W)	2.16
Heating capacity [4]	Btu/hr	6300
Air Flow Volume[4]	CFM	260 @0.3in.wg.
Total Input power [4]	W	970
Coefficient of Performance [4]	C.O.P (W/W)	1.89
Heating Seasonal Performance Factor	HSPF2	8.78
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.3 in.wg.	

Integrated Dual Duct Heat Pump

Specifications

Electrical

General		220V	115V
Voltage range		200~251	100~126
Hz/ phase		60/single	
Power supply		LCDI power cord	
Power factor		0.96	
Total power input (max) heat pump only	W	1550	1550
Total running current (max) heat pump only	A	7.34	14.68
MCA - heat pump only	A	8.8	17.6
MOCP- heat pump only	A	15	30
Input power (standby)	W	38 (30W crankcase e-heater) in Summer;	
Compressor (DC invertor)	W	1100	1100
	RLA	5.1	10.2
	LRA	5.1	10.2
Indoor ECM fan motor	W(max)	88W at rated air flow @0.3in.wg	
	Apparent Current (A)	0.8	1.6
outdoor DC fan motor (24Vdc)	W(max)	138	138
	Current (A)	5.75	5.75
Fresh Air DC fan motor (24Vdc)	W(max)	50	50
	Current (A)	2.1	2.1
Exhaust Air DC fan motor (24Vdc)	W(max)	50	50
	Current (A)	2.1	2.1

Compressor		
Type		BLDC inverter
Refrigerant	Type	R32
Oil	OZ	21.87

Supply air flow VS ESP

Maximum setting	AIR FLOW (CFM) VS EXTERNAL STATIC PRESSURE							
Air Flow (CFM)	701	669	633	566	534	495	455	415
ESP(in.wg)	0	0.04	0.08	0.12	0.16	0.2	0.25	0.3
Power Input(W)	109	108	103	99	93	88	83	78

Exhaust Air Flow VS ESP

Maximum Air flow	AIR FLOW (CFM) VS EXTERNAL STATIC PRESSURE										
Air Flow (CFM)	436	431	426	422	412	405	402	394	390	380	360
ESP(in.wg)	0	0.04	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4
Power Input(W)	140	140	142	145	147	148	145	144	146	146	149

Sound Power Noise Level data

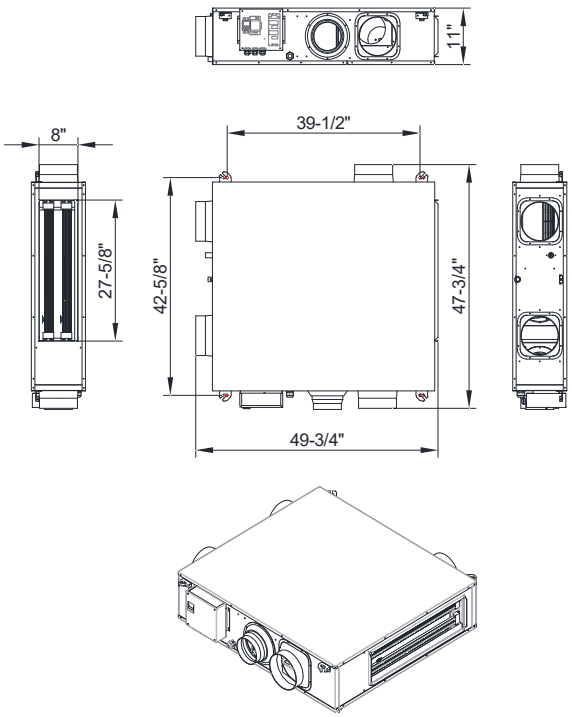
Unit Model: MAIRHP-35-CC-ERV										
Rated Cooling Capacity	A weighted Sound Power Level	Octave-bands Frequency Hz								
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	dB(A)	Sound Power in 1/3 Octave-bands								
13400	60.7	23.2	38.8	48.2	50.5	50.0	46.1	41.8	32.4	23.8

Sound Pressure Noise Level data

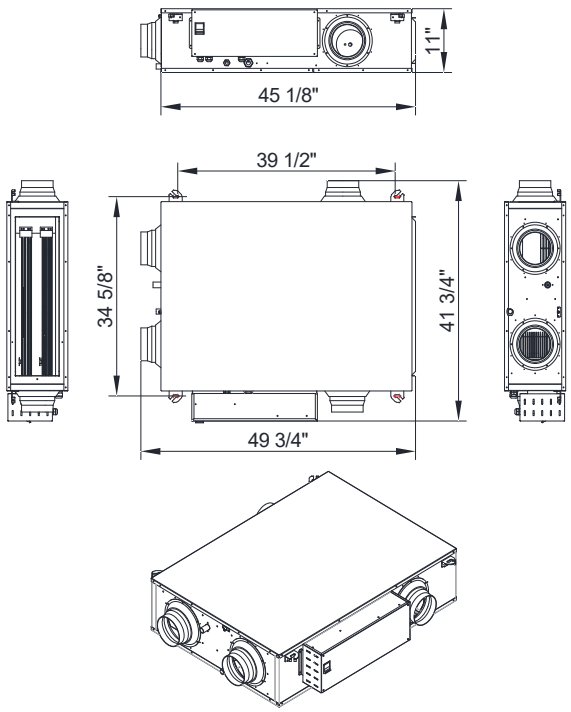
Unit Model: MAIRHP-35-CC-ERV										
Rated Cooling Capacity	A weighted Sound Pressure Level	Octave-bands Frequency Hz								
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	dB(A)	Sound Power in 1/3 Octave-bands								
13400	51.2	13.7	29.3	38.7	41.0	40.5	36.6	32.3	22.9	14.3

Dimensional drawings

MAIRHP-35-CC-ERV



MAIRHP-35-CC

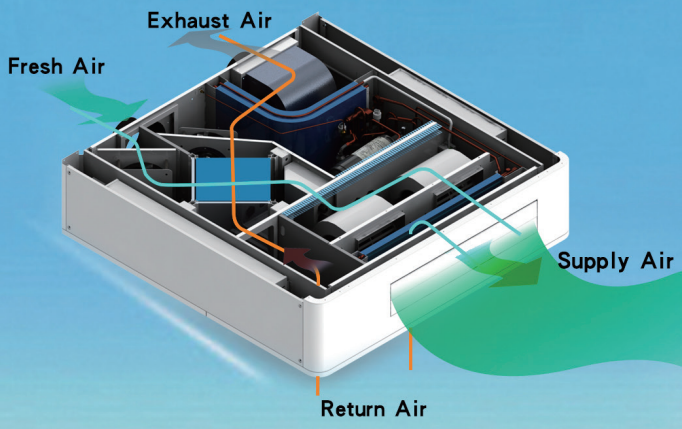


CEILING SUSPENDED

- MAIRHP-35-CS
- MAIRHP-35-CS-ERV

Ceiling Suspended Overview

Ceiling Suspended unit is hung from the ceiling unobtrusively. These units are ideal for retrofit applications where it is desirable to have the unit “out of reach.” Ceiling Suspended units are suitable for dormitories, budget rental apartments or hotels, or anywhere a ceiling-mounted unit is desired. Ceiling Suspended units are available with or without the integrated ERV and can be vented directly outside or through ductwork



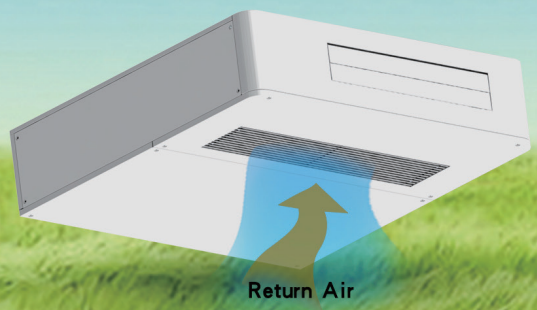
Ventilation

Indoor Return Air from Bottom

The bottom 8” x 29.2” return is designed to be used with a ceiling-mounted return grille or an access panel with an integrated return grille

Stale air exhaust

Ceiling Suspended with a bottom return, the stale air can be pulled from the bottom return.



Indoor Supply Air

Louver vanes are manufactured from aluminum, which is painted same color to front panel, automatic adjustable and driven by stepping motors on unit.

Outside air intake

The single 8” round outside air intake connection provides air for the condenser portion and fresh air for ventilation. This can be ducted with up 0.3” WC external static pressure (combined between intake and exhaust)

Outside air exhaust

The single 8” round outside air exhaust connection is for the condenser portion and the stale air exhaust. This can be ducted with up 0.3” WC external static pressure (combined between intake and exhaust)

Key Features

Compact unit
Easy to install
Paintable cabinet
Electronically controlled air louver
Auto-restart
Washable filters
220V /1Ph /60Hz or 115V /1Ph /60Hz
R32 refrigerant

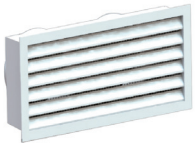
User Interface

Touch electronic wall-mounted control panel
Remote handset

Operation

Cool mode, heat mode, and auto mode
Selectable fan speeds, low, med, high and auto
Fresh air ERV - field configurable amount of fresh air

Accessories

Item	product-name	product codes	product-model	Photo
1	Double horizontal linear louver assembly	MAIRHP-LWS-001	WM-H-D-LLA	
2	Single horizontal linear louver assembly	MAIRHP-LWS-002	HP-H-S-LLA	
3	Single Vent Hood assembly	MAIRHP-LWS-003	HP-S-SVH	
4	PTC for wall mounted	IPA-MAIRHP-CC-eHeater-001	MAIRHP-CC-eHeater-2.0KW	
5	PTC for wall mounted	IPA-MAIRHP-CC-eHeater-001	MAIRHP-CC-eHeater-4.0KW	
6	RCS manager II touch screen pad	RCS-WWP-BAC-4.3	RCS-WWP-BAC-4.3	

Specifications

Model	Unit	MAIRHP-35-CS
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0
Total Cooling capacity at Full Speed[1]	Btu/hr	12600
Sensible Cooling capacity at Full Speed [1]	Btu/hr	8800
Air Flow Volume (wet) at Full Speed[1]	CFM	340
Total Input power at Full Speed [1]	W	1190
Energy Efficiency Ratio at Full Speed [1]	EER	10.58
Total Cooling capacity at Full Speed [2]	Btu/hr	14800
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10100
Air Flow Volume (wet) at Full Speed [2]	CFM	340
Total Input power at Full Speed [2]	W	1160
Energy Efficiency Ratio at Full Speed [2]	EER	12.75
Seasonal Energy Efficiency Ratio	SEER2	16.52
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.3 in.wg.	

Model	Unit	MAIRHP-35-CS
Heating capacity at Full Speed[1]	Btu/hr	13100
Air Flow Volume at Full Speed[1]	CFM	420
Total Input power at Full Speed [1]	W	1130
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.39
Heating capacity at Full Speed [2]	Btu/hr	11300
Air Flow Volume at Full Speed[2]	CFM	420
Total Input power at Full Speed [2]	W	1030
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.21
Heating capacity [3]	Btu/hr	6800
Air Flow Volume[3]	CFM	272
Total Input power [3]	W	970
Coefficient of Performance [3]	C.O.P (W/W)	2.05
Heating capacity [4]	Btu/hr	5700
Air Flow Volume[4]	CFM	260
Total Input power [4]	W	940
Coefficient of Performance [4]	C.O.P (W/W)	1.77
Heating Seasonal Performance Factor	HSPF2	8.60
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.3 in.wg.	

Specifications

Model	Unit	MAIRHP-35-CS-ERV
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0.0
ERV Fresh Air Volume	SCFM	60
ERV Exhaust Air Volume	SCFM	60
ERV core type	Counter-flow	
ERV core type material	Polymer membrane	
Fresh air filter efficiency	Merv13	
Exhaust air filter efficiency	Merv8	
Total Cooling capacity at Full Speed [1]	Btu/hr	13400
Sensible Cooling capacity at Full Speed [1]	Btu/hr	9600
Air Flow Volume (wet) at Full Speed [1]	CFM	340
Total Input power at Full Speed [1]	W	1210
Energy Efficiency Ratio at Full Speed [1]	EER	11.07
Total Cooling capacity at Full Speed [2]	Btu/hr	15200
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10500
Air Flow Volume (wet) at Full Speed [2]	CFM	340
Total Input power at Full Speed [2]	W	1180
Energy Efficiency Ratio at Full Speed [2]	EER	12.88
Seasonal Energy Efficiency Ratio	SEER2	16.65
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.3 in.wg.	

Model	Unit	MAIRHP-35-CS-ERV
Heating capacity at Full Speed [1]	Btu/hr	13700
Air Flow Volume at Full Speed [1]	CFM	420
Total Input power at Full Speed [1]	W	1100
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.65
Heating capacity at Full Speed [2]	Btu/hr	12100
Air Flow Volume at Full Speed [2]	CFM	420
Total Input power at Full Speed [2]	W	1060
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.34
Heating capacity [3]	Btu/hr	7400
Air Flow Volume [3]	CFM	280
Total Input power [3]	W	980
Coefficient of Performance [3]	C.O.P (W/W)	2.21
Heating capacity [4]	Btu/hr	6300
Air Flow Volume [4]	CFM	260
Total Input power [4]	W	950
Coefficient of Performance [4]	C.O.P (W/W)	1.94
Heating Seasonal Performance Factor	HSPF2	8.81
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.3 in.wg.	

Specifications

Electrical

General		220V	115V
Voltage range		200~251	100~126
Hz/ phase		60/single	
Power supply		LCDI power cord	
Power factor		0.96	
Total power input (max) heat pump only	W	1550	1550
Total running current (max) heat pump only	A	7.34	14.68
MCA - heat pump only	A	8.8	17.6
MOCP- heat pump only	A	15	30
Input power (standby)	W	38 (30W crankcase e-heater) in Summer;	
Compressor (DC invertor)	W	1100	1100
	RLA	5.1	10.2
	LRA	5.1	10.2
Indoor ECM fan motor	W(max)	42W at rated air flow	
	Apparent Current (A)	0.38	0.76
outdoor DC fan motor (24Vdc)	W(max)	125	125
	Current (A)	5.2	5.2
Fresh Air DC fan motor (24Vdc)	W(max)	50	50
	Current (A)	2.1	2.1
Exhaust Air DC fan motor (24Vdc)	W(max)	50	50
	Current (A)	2.1	2.1

Compressor		
Type		BLDC inverter
Refrigerant	Type	R32
Oil	OZ	21.87

Exhaust Air Flow VS ESP

Maximum Air flow	AIR FLOW (CFM) VS EXTERNAL STATIC PRESSURE										
Air Flow (CFM)	436	431	426	422	412	405	402	394	390	380	360
ESP(in.wg)	0	0.04	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4
Power Input(W)	140	140	142	145	147	148	145	144	146	146	149

Sound Power Noise Level data

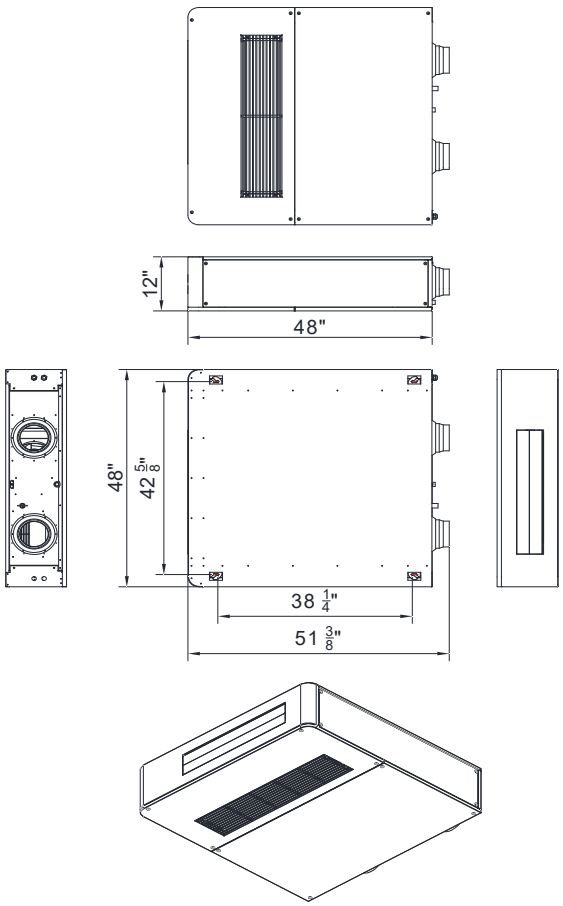
Unit Model: MAIRHP-35-CS-ERV									
Rated Cooling Capacity	A weighted Sound Power Level	Octave-bands Frequency Hz							
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	dB(A)	Sound Power in 1/3 Octave-bands								
13400	60.7	23.2	38.8	48.2	50.5	50.0	46.1	41.8	32.4	23.8

Sound Pressure Noise Level data

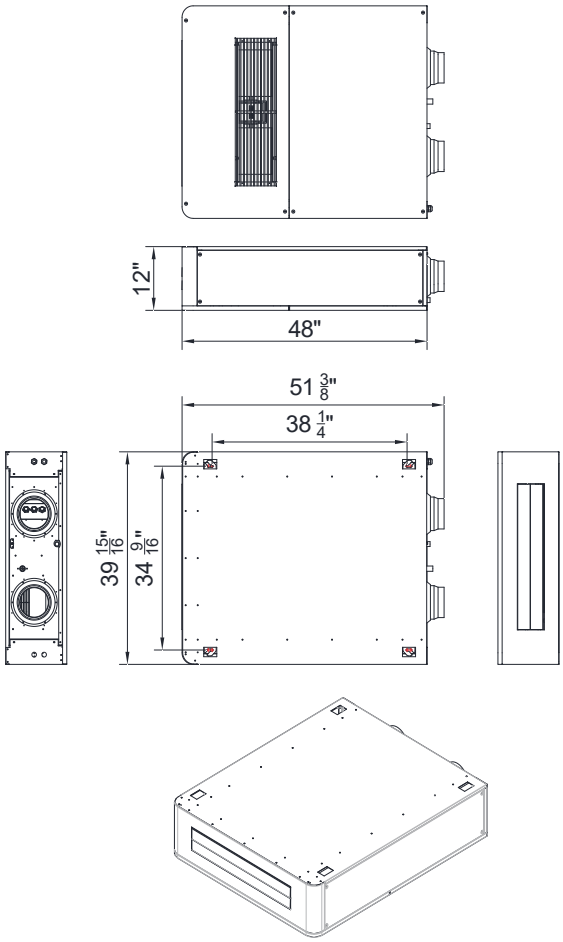
Unit Model: MAIRHP-35-CS-ERV									
Rated Cooling Capacity	A weighted Sound Pressure Level	Octave-bands Frequency Hz							
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	dB(A)	Sound Power in 1/3 Octave-bands under ESP:0.3 in.wg.								
13400	51.2	13.7	29.3	38.7	41.0	40.5	36.6	32.3	22.9	14.3

Specifications

MAIRHP-35-CS-ERV



MAIRHP-35-CS



VERTICAL STACK

Vertical Stack Overview

Vertical Stack is the ideal multi-room solution when a ceiling-mounted unit is not desired or feasible. The compact 12-inch by 25-inch compact footprint uses minimal floor space. This unit is perfect anywhere direct venting or ducting is required with up to 0.3” WC external static pressure. Use any style grilles and louvers for maximum design flexibility. A unique feature of the Vertical Stack unit is that it can be installed on a corridor wall, enabling it to be fully serviced without entering the apartment or hotel room. A bathroom exhaust can connect to the dedicated stale air exhaust. The Vertical Stack unit is available with or without the integrated ERV and can be vented directly outside or through ductwork.

- MAIRHP-35-VK
- MAIRHP-35-VK-ERV

Ventilation

Indoor Return Air from sides or Rear

The left, right or rear side 8” round connection can be ducted to one or more rooms with up to 0.3” external static pressure (combined between return and supply). It can also be left open as a side plenum return. Duct both, leave both open or duct one, and leave one open to a plenum.

Stale air exhaust

The 4” round stale air exhaust connection can be used as part of a plenum return without any ducting or can be ducted to a bathroom or multiple locations with up to 0.4” WC external static pressure. If configuring Ceiling Ducted with a bottom return, the stale air can also be pulled from the bottom return

Indoor Supply Air

The front, rectangular 7.87” x 19.6” supply air connection is ideal for a supply grille, with 0.3” external static pressure (combined between return and supply). The top rectangular 5” x 18.62” supply air connection is ideal for ducting to one or more rooms. For added flexibility, duct part through the top and direct vent part through the front for ducting multiple rooms with minimal ductwork.

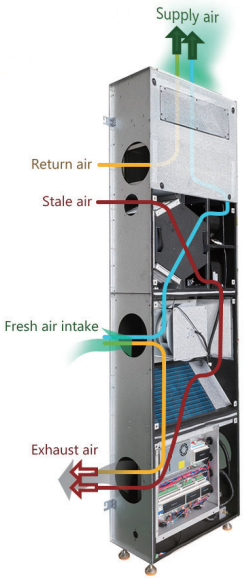
Outside air intake-Both sides or rear

The single 8” round outside air intake connection provides air for the condenser portion and fresh air for ventilation. This can be ducted with up 0.3” WC external static pressure (combined between intake and exhaust)

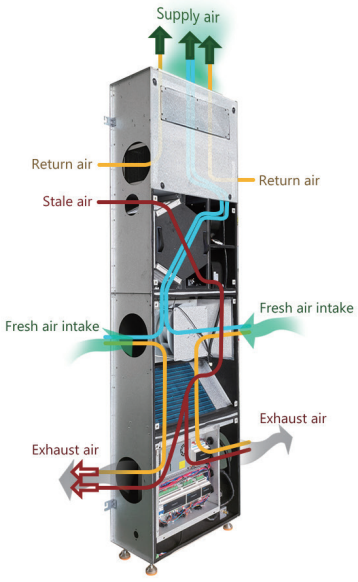
Outside air exhaust-Both sides or rear

The single 8” round outside air exhaust connection is for the condenser portion and the stale air exhaust. This can be ducted with up 0.3” WC external static pressure (combined between intake and exhaust)

The first option



The second option



Back view

Key Features

Compact unit
Easy to install
Auto-restart
Washable filters
220V /1Ph /60Hz or 115V /1Ph /60Hz
R32 refrigerant

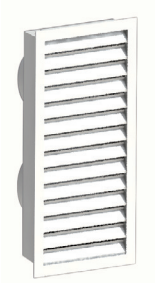
User Interface

Touch electronic wall-mounted control panel
Remote handset

Operation

Cool mode, heat mode, and auto mode
Selectable fan speeds, low, med, high and auto
Fresh air ERV - field configurable amount of fresh air

Accessories

Item	product-name	product codes	product-model	Photo
1	Double vertical linear louver assembly	MAIRHP-LWS-009	VK-H-D-LLA	
2	Single horizontal linear louver assembly	MAIRHP-LWS-002	HP-H-S-LLA	
3	Single Vent Hood assembly	MAIRHP-LWS-003	HP-S-SVH	
4	PTC-e Heater	IPA-MAIRHP-VK-eHeater-001	MAIRHP-VK-eHeater-1.5KW	
5	PTC-e Heater	IPA-MAIRHP-VK-eHeater-002	MAIRHP-VK-eHeater-3.0KW	
6	RCS manager II touch screen pad	RCS-WWP-BAC-4.3	RCS-WWP-BAC-4.3	

Specifications

Model	Unit	MAIRHP-35-VK
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0.2
Total Cooling capacity at Full Speed[1]	Btu/hr	12600
Sensible Cooling capacity at Full Speed [1]	Btu/hr	8800
Air Flow Volume (wet) at Full Speed[1]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [1]	W	1210
Energy Efficiency Ratio at Full Speed [1]	EER	10.43
Total Cooling capacity at Full Speed [2]	Btu/hr	14800
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10100
Air Flow Volume (wet) at Full Speed [2]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [2]	W	1180
Energy Efficiency Ratio at Full Speed [2]	EER	12.54
Seasonal Energy Efficiency Ratio	SEER2	16.4
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.3 in.wg.	

Model	Unit	MAIRHP-35-VK
Heating capacity at Full Speed[1]	Btu/hr	13100
Air Flow Volume at Full Speed[1]	CFM	420 @0.3in.wg.
Total Input power at Full Speed [1]	W	1150
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.34
Heating capacity at Full Speed [2]	Btu/hr	11300
Air Flow Volume at Full Speed[2]	CFM	420@0.3in.wg.
Total Input power at Full Speed [2]	W	1050
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.15
Heating capacity [3]	Btu/hr	6800
Air Flow Volume[3]	CFM	272 @0.3in.wg.
Total Input power [3]	W	990
Coefficient of Performance [3]	C.O.P (W/W)	2.01
Heating capacity [4]	Btu/hr	5700
Air Flow Volume[4]	CFM	260 @0.3in.wg.
Total Input power [4]	W	950
Coefficient of Performance [4]	C.O.P (W/W)	1.76
Heating Seasonal Performance Factor	HSPF2	8.58
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.3 in.wg.	

Specifications

Model	Unit	MAIRHP-35-VK-ERV
Air Flow Volume (dry)	SCFM	400
External Static Pressure	In.wg.	0.2
ERV Fresh Air Volume	SCFM	60
ERV Exhaust Air Volume	SCFM	60 @0.3in.wg.
ERV core type	Counter-flow	
ERV core type material	Polymer membrane	
Fresh air filter efficiency	Merv13	
Exhaust air filter efficiency	Merv8	
Total Cooling capacity at Full Speed[1]	Btu/hr	13400
Sensible Cooling capacity at Full Speed [1]	Btu/hr	9600
Air Flow Volume (wet) at Full Speed[1]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [1]	W	1230
Energy Efficiency Ratio at Full Speed [1]	EER	10.89
Total Cooling capacity at Full Speed [2]	Btu/hr	15200
Sensible Cooling capacity at Full Speed [2]	Btu/hr	10500
Air Flow Volume (wet) at Full Speed [2]	CFM	340 @0.3in.wg.
Total Input power at Full Speed [2]	W	1200
Energy Efficiency Ratio at Full Speed [2]	EER	12.67
Seasonal Energy Efficiency Ratio	SEER2	16.6
Test Conditions:		
Cooling Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 A_{Full}	95.0/75.0	80.0/67.0
*2 B_{Full}	82.0/65.0	80.0/67.0
Exhaust Air ESP :	0.3 in.wg.	

Model	Unit	MAIRHP-35-VK-ERV
Heating capacity at Full Speed[1]	Btu/hr	13700
Air Flow Volume at Full Speed[1]	CFM	420 @0.3in.wg.
Total Input power at Full Speed [1]	W	1120
Coefficient of Performance at Full Speed [1]	C.O.P (W/W)	3.58
Heating capacity at Full Speed [2]	Btu/hr	12100
Air Flow Volume at Full Speed[2]	CFM	420 @0.3in.wg.
Total Input power at Full Speed [2]	W	1080
Coefficient of Performance at Full Speed [2]	C.O.P (W/W)	3.28
Heating capacity [3]	Btu/hr	7400
Air Flow Volume[3]	CFM	280 @0.3in.wg.
Total Input power [3]	W	1000
Coefficient of Performance [3]	C.O.P (W/W)	2.16
Heating capacity [4]	Btu/hr	6300
Air Flow Volume[4]	CFM	260 @0.3in.wg.
Total Input power [4]	W	970
Coefficient of Performance [4]	C.O.P (W/W)	1.89
Heating Seasonal Performance Factor	HSPF2	8.78
Test Conditions:		
Heating Mode:	Air Entering Outdoor Unit (°F)	Air Entering Indoor Unit (°F)
*1 $H1_{Full}$	47.0/43.0	70.0/60.0
*2 $H2_{Full}$	35.0/33.0	70.0/60.0
*3 $H3_{Full}$	17.0/15.0	70.0/60.0
*4 $H4_{Full}$	5.0/4.0	70.0/60.0
Exhaust Air ESP :	0.3 in.wg.	

Integrated Dual Duct Heat Pump

Specifications

Electrical

General		220V	115V
Voltage range		200~251	100~126
Hz/ phase		60/single	
Power supply		LCDI power cord	
Power factor		0.96	
Total power input (max) heat pump only	**W**	1550	1550
Total running current (max) heat pump only	**A**	7.34	14.68
MCA - heat pump only	**A**	8.8	17.6
MOCP- heat pump only	**A**	15	30
Input power (standby)	**W**	38 (30W crankcase e-heater) in Summer;	
Compressor (DC invertor)	**W**	1100	1100
	RLA	5.1	10.2
	LRA	5.1	10.2
indoor DC fan motor (24Vdc)	**W(max)**	125	
	Current (A)	5.2	5.2
outdoor DC fan motor (24Vdc)	**W(max)**	125	125
	Current (A)	5.2	5.2
Fresh Air DC fan motor (24Vdc)	**W(max)**	30	30
	Current (A)	0.83	0.83
Exhaust Air DC fan motor (24Vdc)	**W(max)**	40	40
	Current (A)	1.66	1.66

Compressor		
Type		BLDC inverter
Refrigerant	Type	R32
Oil	OZ	21.87

Supply air flow VS ESP

Maximum Air flow	**AIR FLOW (CFM) VS EXTERNAL STATIC PRESSURE**										
Air Flow (CFM)	436	431	426	422	412	405	402	394	390	380	360
ESP(in.wg)	0	0.04	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4
Power Input(W)	140	140	142	145	147	148	145	144	146	146	149

Exhaust Air Flow VS ESP

Maximum	**AIR FLOW (CFM) VS EXTERNAL STATIC PRESSURE**				
Air Flow (CFM)	469	458	447	438	429
ESP(in.wg)	0	0.06	0.12	0.16	0.2
Power Input(W)	146	147	147	148	148

Sound Power Noise Level data

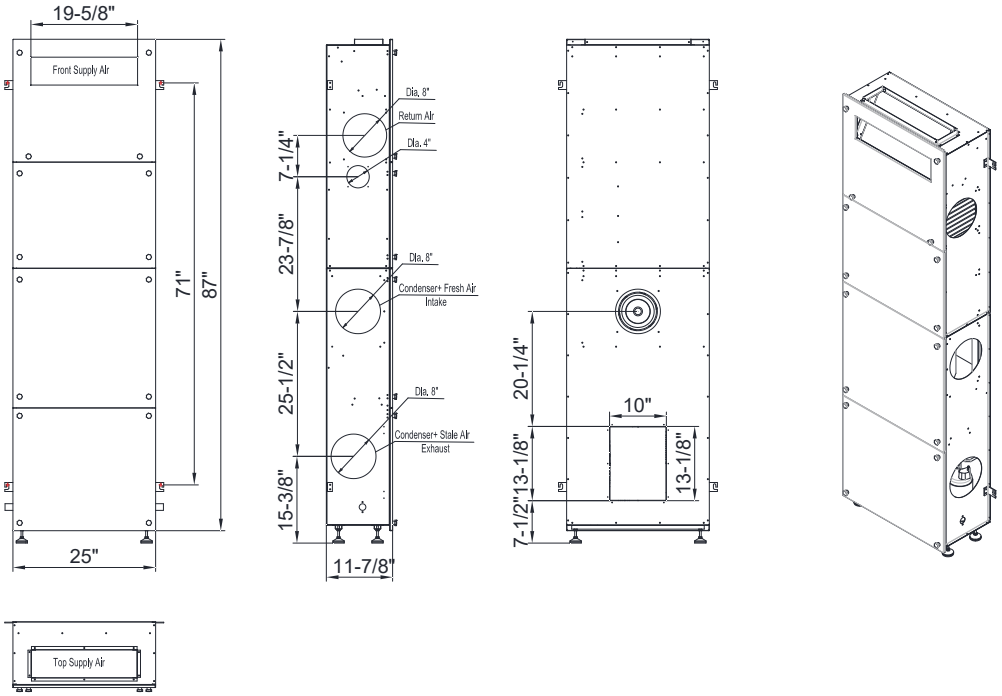
Unit Model: MAIRHP-35-VK-ERV										
Rated Cooling Capacity	**A weighted Sound Power Level**	**Octave-bands Frequency Hz**								
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	**dB(A)**	Sound Power in 1/3 Octave-bands								
13400	60.7	23.2	38.8	48.2	50.5	50.0	46.1	41.8	32.4	23.8

Sound Pressure Noise Level data

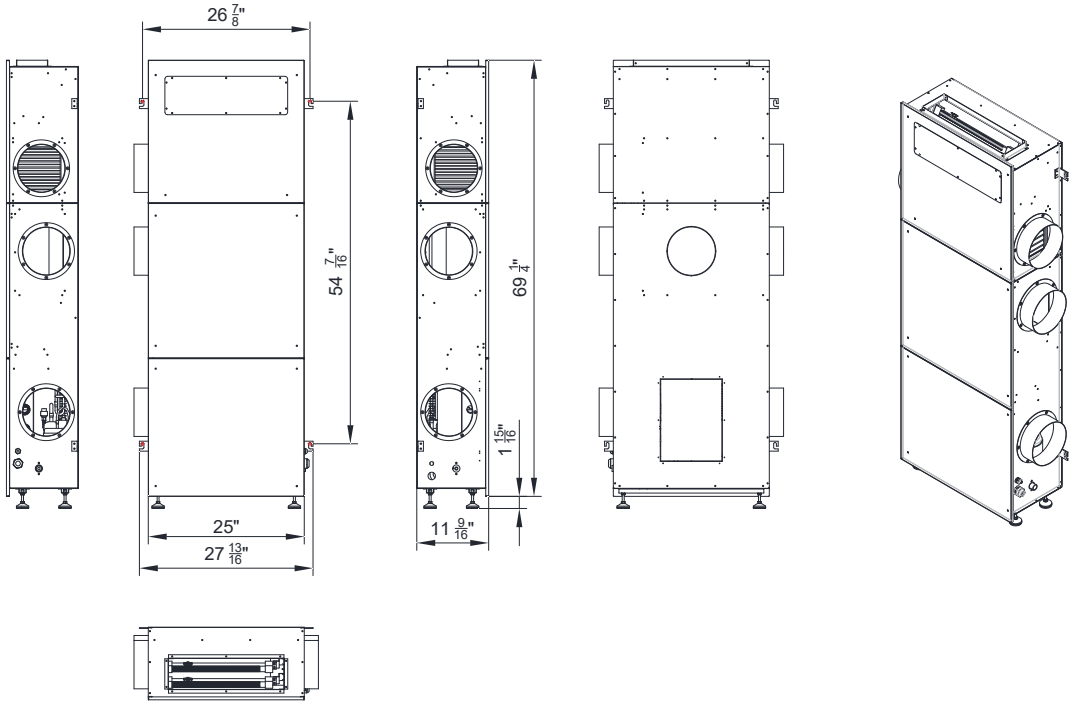
Unit Model: MAIRHP-35-VK-ERV										
Rated Cooling Capacity	**A weighted Sound Pressure Level**	Octave-bands Frequency Hz								
		63	125	250	500	1K	2K	4K	8K	16K
Btu/Hr	**dB(A)**	Sound Power in 1/3 Octave-bands								
13400	51.2	13.7	29.3	38.7	41.0	40.5	36.6	32.3	22.9	14.3

Specifications

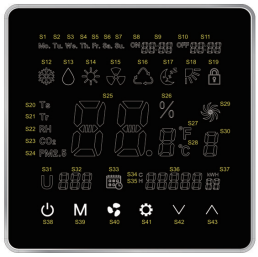
MAIRHP-35-VK With ERV Dimensions



MAIRHP-35-VK Dimensions

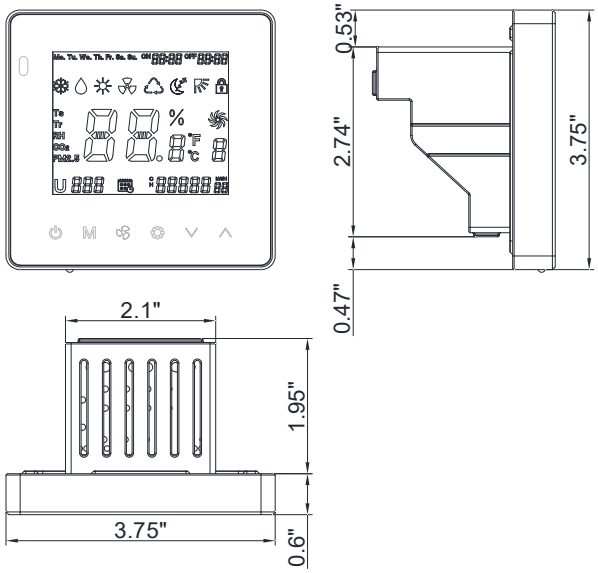


HEAT PUMP WIRED WALL PAD

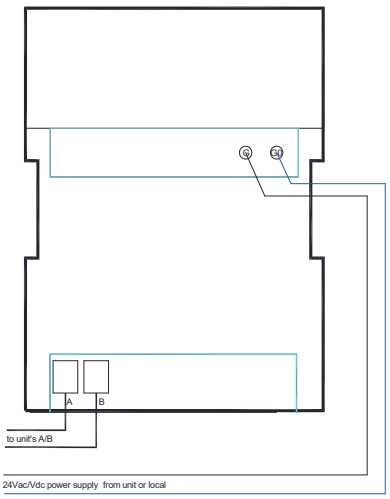


Code	Legend	Code	Legend	Code	Legend
S1	Monday	S14	Heating Mode	S27	Fahrenheit degree
S2	Tuesday	S15	Ventilation Mode	S28	Celsius degree
S3	Wednesday	S16	Auto Mode	S29	Fan
S4	Thursday	S17	DHW mode	S30	0-Auto; 1-Low; 2-Medium; 3-High
S5	Friday	S18	Swing mode	S31	Unit address
S6	Saturday	S19	LED lock	S32	Unit No. / Error code
S7	Sunday	S20	Setting Temperature	S33	Weekly timer
S8	Timer-ON	S21	Room Temperature	S34	-
S9	Timer-ON time Normally: Real time	S22	-	S35	-
S10	Timer-OFF	S23	-	S36	-
S11	Timer-OFF time	S24	-	S37	-
S12	Cooling Mode	S25	Data Display		
S13	Dehumification	S26	-		
S38	On/Off Button	S40	Fan speed setting	S42	Up
S39	Mode setting	S41	Parameter setting	S43	Down

Dimensions



Wiring Diagram



LIMITED WARRANTY

MFG warrants this product to be free from defects in workmanship or material for a period of 1 year from date of original installation or 18 months from date of shipment, whichever comes first. The obligation of MFG under this warranty is LIMITED to the replacement or repair of failed components. The determination as to whether a component is repaired or replaced will be determined solely by MFG. At the discretion of MFG, failed components may be required to be returned to the factory for inspection and review. Any and all costs associated with the return of components to the factory shall be prepaid and the responsibility of the party returning the component. When a defective part can be repaired or replaced, MFG shall not be obligated to repair the entire unit or any part thereof other than the defective part. This warranty applies only to the original equipment owner and is subject to the terms and conditions hereof.

Compressor - five year limited warranty

In addition to the 1 year Limited Warranty, MFG warrants the compressor to be free from defects in workmanship or material for a period of 5 years from the date of original installation. If a compressor fails during this five year period, a new compressor will be supplied. The customer will be responsible for freight costs from our factory for delivery of the replacement compressor and also for the return of the defective compressor which may be required under the terms of the Warranty. Labor and any other expense involved in replacing the compressor is not covered by this warranty.

Labor and cost not covered

This Limited Warranty provides only replacement parts or credits and does not provide for or cover any labor, shipping, handling, or other costs for service travel, servicing, removing, or installing any parts.

Exclusions

This Limited Warranty shall be void if:

1. The unit is not installed by a licensed or otherwise qualified or contractor and in compliance with the installation manual, applicable installation, and good trade practices.
2. The defect or damage is caused by accident, abuse, negligence of any person or company, misuse, riot, flood, fire, or Acts of God.
3. The unit is not operated and regularly serviced and maintained as called for in the Installation, Operation, and Maintenance (IOM) Manual.
4. Damages are caused by operating the unit in a commercial or corrosive atmosphere containing any damaging or dangerous chemicals.
5. The unit is modified or serviced in a manner not in accordance with the IOM Manual.
6. Components, replacement parts, or other accessories not compatible with the unit or not approved by MFG have been used with or attached to the unit.
7. The defect or damage is not caused by MFG Controls, or it arises from circumstances beyond the control of MFG.
8. The unit is installed outside the United States or Canada or has been removed from the place where it was originally installed.

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