Product Data Sheet

Wall Mounted Pro APP10R4L1

- Integrated ERV
- R410a
- LCDI Power cord
- 115V

⚠ SAFETY WARNING

Only qualified professionals should install and service this equipment. Improperly installed or modifications by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the installation manual and labels attached to the equipment.

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Contents

AIO Wall Mounted Pro units are slim and sleek. The wall-mounted unit can be mounted high or low with a factory-supplied bracket, making installation quick and simple. An electronically controlled louver with an auto-swing function distributes airflow comfortably and uniformly. Wall-mounted units are ideal for any area with free wall space. The onboard touch controller simplifies use and installation. Special adapters enable the unit to be installed perpendicular to an outside wall, used with many louver styles, or even vented through an existing window frame with no construction required. Wall Pro's powerful external ECM condenser fan sits inside the vent pipe or adapter.

Ephoca is constantly innovating and improving its products and reserves the right to modify product design and specifications without notice and without incurring any obligations.

Ephoca is the US subsidiary of Innova SRL - Via 1° Maggio, 8 – 38089 Storo (TN) Italy.

Key features

- **No outdoor unit**
  The single package design means no outdoor unit, freeing up space on rooftops and at ground level and enabling installations in buildings without space for an outdoor unit.
- **BLDC twin rotary inverter compressor**
  The state-of-the-art, twin rotary BLDC inverter compressor operates efficiently, quietly, and with minimal vibration. AIO is ideal for any room or area that requires between 4,000 and 10,500 BTU.
- **Integrated ERV**
  AIO's integrated ERV eliminates the requirement of installing an independent ERV system, ducting, electrical work, and engineering.
- **Recovery plus™**
  With a patent pending innovation, AIO utilizes the heat or cold remaining in the air after passing through the recovery core to lower or raise the temperature of the condenser, enabling a boost in performance and efficiency.
- **MERV 13 clean air**
  Clean outdoor air is essential to well-being and safety. The MERV 13 filter ensures that all air entering the room/home is clean and safe. Additionally, stale air is passed through a second MERV 13 filter keeping the core clean.
- **High-efficiency ECM fans with auto ESP**
  High-efficiency ECM fans enable efficient and quiet operation as the EC motor can ramp up or down depending on the need. Automatically adjusted external static pressure ensures correct airflow.
- **Cold climate heat pump**
  The heat pump with efficiently function down to 5ºF outdoors.
- **Intelligent defrosting**
  AIO's intelligent defrosting system means more time heating and less time on reverse cycle defrost.
- **Coil cooling system**
  The condensate mister system drizzles the condensate on the outdoor heat exchanger coils, lowering the coil's temperature and increasing efficiency and performance.
- **Quiet**
  With whisper-quiet operation as low as 27 decibels, the occupant will barely notice AIO is operating.
- **No outside noise infiltration**
  AIO has the lowest STC and OITC rating among comparable units. This means less outside noise intruding into the room day and night.
- **Versatile on/off options**
  AIO's low voltage connection enables connection to any occupancy system, key-card, window sensors, fire alarms, etc.; as long as it can send a signal to AIO via low voltage, the unit can be easily turned on or off.
- **Corrosion protection**
  AIO comes standard with corrosion protection, assuring many years of trouble-free performance.
- **Minimal clearances and compact footprint**
  AIO's compact form with no line sets means there is no need to access the sides of the unit. Mount units with as little as 3/4 inch clearance on all sides. Compact footprints take up minimum space.
- **Leak protection**
  A drain alarm will activate if the drain becomes clogged, and the system will be shut off, preventing water damage.
- **Easy to service**
  AIO can be easily maintained and repaired from the front or bottom of the unit without having to remove the unit from the wall or ceiling. AIO can also be quickly swapped out with a replacement, reducing downtime.
- **Versatile controls**
  AIO includes an onboard touch controller and an optional iOS and android app. AIO can be used with optional wall-mounted controllers, including a TFT with 7 day program and third-party controllers from any company using the optional 3rd party kit. An optional BACnet and Modbus module enables interfacing with building management systems
- **10-Year limited warranty**
  An industry-leading ten-year limited warranty provides peace of mind. Comprehensive onsite one-year parts and labor. Nine-year parts warranty on the compressor.

  Available extended on-site comprehensive parts and labor warranty for five, ten and 15 years.

Technical requirements

AIO wall mounted pro specifications

Note: Refer to the full specifications for detailed information about the list of specifications.

- An electrical supply with a grounded 3-prong receptacle.
- The power supply circuit is installed in accordance with the current edition of NEC (ANSI/NFPA 70) and local codes and ordinances. Note: Always consult local and national electric codes.
- Voltage rating of 60 Hz, 115V single phase.
- Interior clearances as follows:
  Sides of unit to wall: 1"
  Bottom of unit to floor 1"
  Top of unit to any obstruction: 3.5"
- Unblocked vents on the exterior and no obstacles within 36".
- Properly installed insulated condensate drain line with a minimum of 30% slope if an external drain. If using an external drain on a low floor, ensure that end of drain is above the maximum height of snow buildup. An internal drain is highly recommended.
- Approved louvers installed with best practices to ensure no water into the wall assembly.
- 8" diameter ducts through the wall which protrude 1/8" into the unit's EPDM backing to ensure a tight seal.
- The unit must be perfectly level on the vertical and horizontal axis.
- The unit must be tight to the wall, with zero leakage between the external ducts and the unit. Use insulating material if wall is not level.
- Properly affixed wall bracket to wall studs or other supporting material.

Louver specifications

AIO Wall Mounted Pro units can be vented through all kinds of custom and creative solutions. The possibilities are endless, from perforated panels to custom louvers.

There are two critical factors in selecting and sizing a solution that will work with AIO Wall Mounted Pro units.

- **Free area:** This area on a louver/grille is open for the air to flow through. The louver, perforated panel, or other solution must have at least the amount of free area as required in the specifications below in the plenum from the unit so that ample air can enter and exit the condenser chamber. A more restrictive solution with a smaller free area can be utilized by enlarging the louver and plenum until the required free area is achieved.

  The minimum free area required is .34 sq feet for the intake vent and .34 sq feet for the exhaust vent.

- **Pressure drop:** Pressure drop is the resistance the louver/grille creates against the airflow. This resistance can create heat build-up inside the condenser portion, causing the compressor to overheat and shut down. A solution with a higher pressure drop than specified can be utilized by enlarging the louver and plenum until the pressure drop is within specification.

  The maximum total pressure for the intake and exhaust ducting (if any) and intake and exhaust louvers combined must be under 0.45" WC

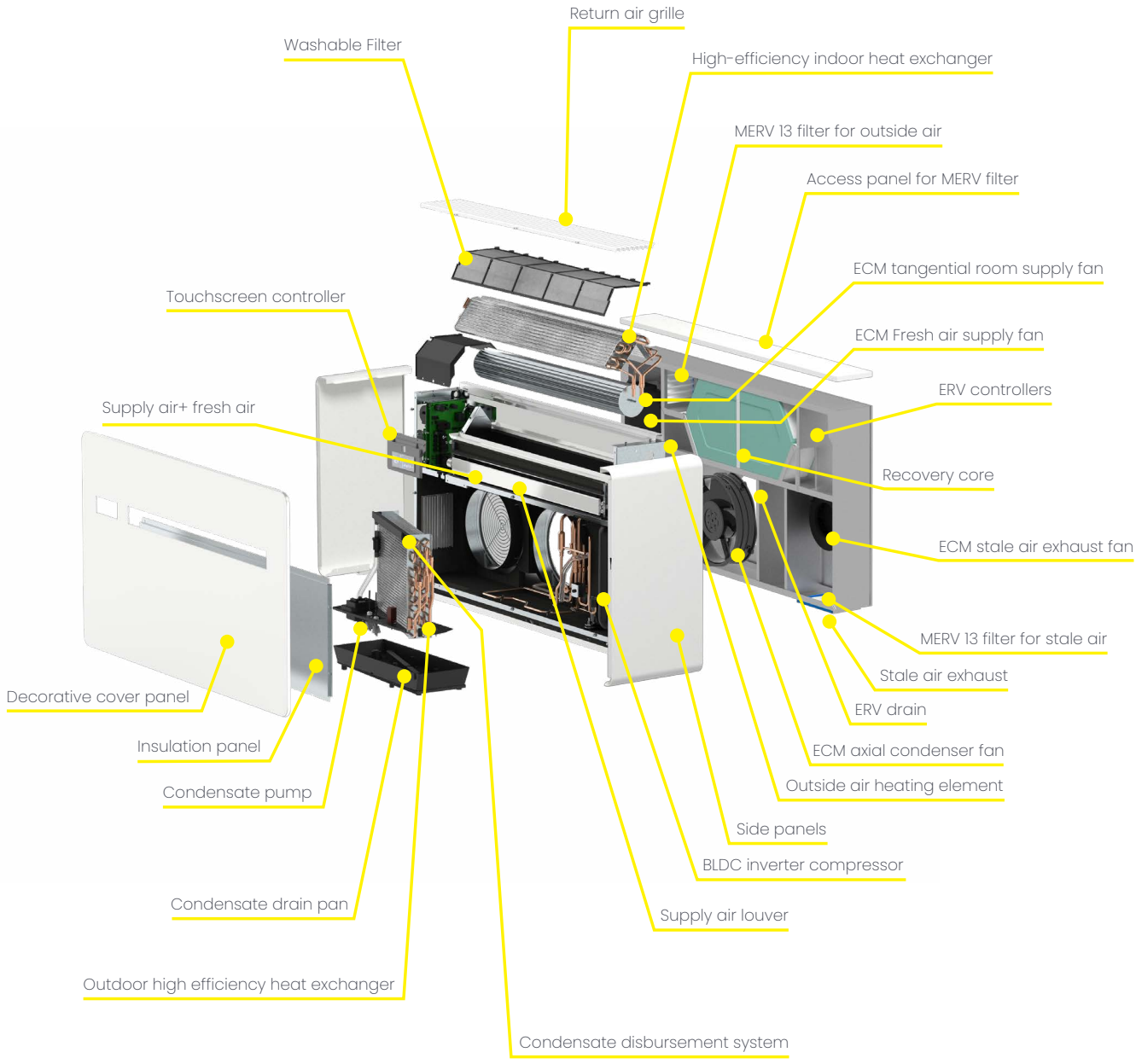
  To be clear, the entire assembly of ductwork, plenums, and louvers for the complete air circuit, in and out of the system may not exceed 0.45" WC.

- Any louver or louver or assembly must meet these requirements, as exceeding these limits can cause the unit to overheat and fail and void the warranty.

The following louvers are approved for AIO Wall Mounted Pro:

- Sunvent: LLA/C, LLA/M, LLA/S - available through your Ephoca distributor.
- Thermaduct: RLA9 - available through your Ephoca distributor.

What's inside



Technical specifications

Cooling

Indoor: 80°F, W.B. 67°F; Outdoor: 95°F, W.B. 75°F

		15 CFM	25 CFM	40 CFM
Heat Pump				
Range	Btu/h		3,300 - 15,000	
Nominal	Btu/h		8,400	
Input Power	W		720	
	EER		11.67	
Efficiency	IEER		14.82	
ERV				
Sensible recovery	Btu/h	220	350	500
Latent recovery	Btu/h	150	250	330
Input Power	W	8	15	30
Efficiency	EER	16.12	13.68	9.77
Combined Heat Pump + ERV[1]				
Range	Btu/h	4,270 - 14,870	4,500 - 15,100	4,730 - 15,330
Nominal	Btu/h	8,770	9,000	9,230
Input Power	W	728	735	750
Efficiency	EER	12.05	12.24	12.31
Moisture Removal	Pts/h		1.9	

Heating 47°

Indoor: 70°F, W.B. 60°F; Outdoor: 47°F, W.B. 43°F

		15 CFM	25 CFM	40 CFM
Heat pump				
Range	Btu/h		3,900 - 14,500	
Nominal	Btu/h		8,100	
Input power	W		705	
Efficiency	COP		3.37	
ERV				
Recovery	Btu/h	350	550	800
Input power	W	8	15	30
Efficiency	COP	12.82	10.75	7.82
Combined heat pump +ERV[1]				
Range	Btu/h	4,250 - 14,850	4,450 - 15,050	4,700 - 15,300
Nominal	Btu/h	8,400	8,700	8,900
Input power	W	713	720	735
Efficiency	COP	3.45	3.54	3.55

Heating 13°F

Indoor: 70°F, W.B. 60°F; Outdoor: 13°F, W.B. 9°F

		15 CFM	25 CFM	40 CFM
Heat pump				
Range	Btu/h		3,300 - 6,900	
Nominal	Btu/h		6,200	
Input power	W		910	
Efficiency	COP		2.00	
ERV				
Recovery	Btu/h	930	1,480	2,150
Input power	W	8	15	30
Efficiency	COP	34.07	28.92	21.00
Combined heat pump + ERV[1]				
Range	Btu/h	4,230 - 7,830	4,780 - 8,380	5,450 - 9,050
Nominal	Btu/h	7,130	7,680	8,350
Input power	W	918	925	940
Efficiency	COP	3.06	3.27	3.50

Heating 5°F

Indoor: 70°F W.B. 60°F; Outdoor : 5°F, W.B. 3°F

		15 CFM	25 CFM	40 CFM
Heat pump				
Range	Btu/h		2,800 - 6,600	
Nominal	Btu/h		5,600	
Input power	W		959	
Efficiency	COP		1.71	
ERV				
Recovery	Btu/h	1,060	1,680	2,400
Input power	W	8	15	30
Efficiency	COP	38.83	32.83	23.45
Combined heat pump + ERV[1]				
Range	Btu/h	3,860 - 7,660	4,480 - 8,280	5,200 - 9,000
Nominal	Btu/h	6,660	7,280	8,000
Input power	W	967	974	989
Efficiency	COP	2.02	2.19	2.37

ERV

General		
Flow type		Counterflow enthalpy exchanger
Material		Mold and bacteria resistant, washable polymer membrane
ASHRAE compliance		62.1 And 62.2 When used with the ERV module

		15 CFM	25 CFM	40 CFM
Efficiency of core in winter				
Sensible	%	81.4	77.5	72.8
Latent	%	68.5	62.3	56.4
Efficiency of core in summer				
Sensible	%	70.2	65.1	58.2
Latent	%	52.4	53.5	54.7
Filter				
Indoor air	MERV		MERV 3 / optional MERV 13	
Outside air	MERV		MERV 13	
Leakage				
Internal	WC	2.6% at 0.40"	2.4% at 0.40"	2.2% at 0.40"
External	WC	2.8% at 1.0"	2.7% at 1.0"	2.5% at 1.0"

To understand the ratings, please see the section "Understanding the ratings" on the following pages.

Technical specifications

Airflow

Fresh air volume		
Indoor	Type	ECM tangential
	CFM	160 - 290
	Speeds	Low, med, high, auto
	Filter	MERV 3
Fresh air intake	Type	ECM centrifugal
	CFM	15 -40
	Speeds	Based on CFM
	Filter	MERV 13
Stale air exhaust	Type	ECM centrifugal
	CFM	15 -40
	Speeds	Based on CFM
	Filter	MERV 13
Outdoor	Type	ECM Centrifugal
	CFM	184 - 490
	Available ESP	0.45"
	Intake connection	8" round
	Exhaust connection	
	Speeds	Low, med, high, auto

Electrical

			115V
General			
Volt range			103 - 126
Hz/ phase			60 Hz singe phase
Power supply			LCDI power cord NEMA 5-20P
Power factor		%	0.96
Cooling (nominal)		A	6.5
Cooling (max)			15.7
Heating - heat pump only (nominal)			6.1
Heating -heat pump + electric (max)			16.5
Input power (standby)		W	10.8
Input power (off mode)			1.7
Motors			
Compressor		RLA	5.6
		LRA	9.5
Indoor ECM fan motor		W (max)	50
		F.L.A.	0.4
		HP	0.07
Fresh air intake ECM fan motor		W (max)	30
		F.L.A.	0.5
		HP	0.04
Stale air exhaust ECM fan motor		W (max)	30
		F.L.A.	0.3
		HP	0.04
Outdoor ECM fan motor		W (max)	150
		F.L.A.	1.3
		HP	0.20

Circuit Breakers

Circuit breakers		
MCA - heat pump only	A	17
Recommended breaker size		20
MOCP		35

Compressor

		115V
Model voltage		
Type		BLDC twin rotary inverter
Refrigerant	Type	R410a
	Oz.	21.87
Oil	Type	Fv50s

Sound

General		
Indoor	dB(A)	29 - 45
	STC	40
	OITC	35
Outdoor	dB(A)	29 - 56

General

Controls	
Basic functionality	Dependent on controller
Wi-Fi	Optional module available
ADA compliant	Dependent on controller
Dry contact	Yes
Power outage restart	Auto-on based on last setting

Modes	
Operation	Cool+ fresh air, cool only, heat+ fresh air, heat only, auto
Restricted modes	Heat only, cool only, temperature limiting
Timers	Dependent on controller

Condensate	
Pipe size	3/4"

Physical data		
Dimensions	Net	39.7" W x 21.9" H x 11.5" D
	Gross	44" W x 26" H x 15" D
Weight	Net	130 lb
	Gross	135 lb
Cabinet	Material	Steel
	Finish	RAL 9003 signal white

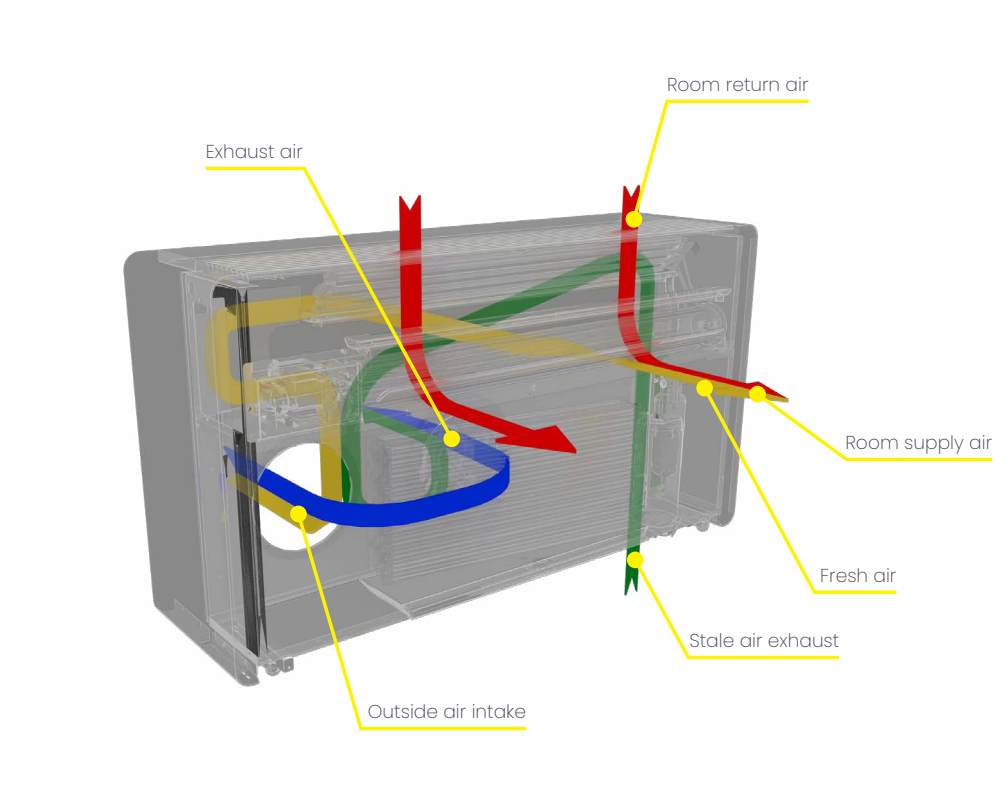
Certification	
Safety	Intertek labs ETL
Energy efficiency	Intertek

Warranty		
Included	1 Year	Full on-site parts and labor
	9 Year	Compressor only (parts)
Optional Extended	5, 10 and 15 years	Full on-site parts and labor

Airflow

AIO Wall Mounted Pro is extraordinarily flexible in how it can externally vent. A host of adapters are available that enable AIO Wall Mounted Pro to be installed in many scenarios, including on glass curtain walls with linear louvers, integrated window, and louver assemblies, or even with no construction using a windowsill adapter.

- **Supply air**
  The supply air is through an electronically controlled louver that can be set at any angle or continuously oscillate.
- **Return air**
  The return air is on the top through the integrated return air grille.
- **Outside air intake**
  The 8-inch round outside air intake connection can be ducted or used with an adapter with up to 0.45-inch external static pressure (combined between intake and exhaust). Use with any of the approved or custom louvers/as long as they comply with the minimum requirements. See page 3.
- **Outside air exhaust**
  The 8-inch round exhaust connection can be ducted or used with an adapter with up to 0.45-inch external static pressure (combined between intake and exhaust). Use with any of the approved or custom louvers/as long as they comply with the minimum requirements. See page 3.



Outside air Recirculate air Fresh air intake Stale air exhaust

Understanding the ratings

AIO is a unique system that incorporates a heat pump and ERV in a single package. To understand the specifications, you must read this first to understand. There are different ways to bring treated outside air into a dwelling unit; using a rooftop package, PTAC or VTAC, DOAS, ERV, or a fresh air intake kit.

- **Package systems such as Rooftop, PTAC, and VTAC**
  In these systems, outside air is introduced via a vent and heated/cooled using the heat pump or electric heat (if the outside temperature is below the heat pump's operating range). The heat pump's capacity must include inside and outside air loads.
- **DOAS (Dedicated Outside Air Systems)**
  DOAS units condition the outside air to inside temperature with a heat pump. With a DOAS, the only load is the outside air.
- **ERV Systems**
  ERV systems utilize the heat/cold from the exhausted stale air to heat/cool the incoming outside air. As ERVs are only 60% and 85% efficient, the outside air must be further heated/cooled to meet room temperature. Depending on the system design, the air can be passed through an additional dedicated heat pump or passed into the return of a fan coil unit. Regardless, the heat pump's capacity must be calculated to cover the load which the ERV does not recover.
- **Fresh air intake kit for indoor units**
  Some indoor units (such as cassettes and ducted) of VRF and other split systems will accommodate a fresh air kit, where outside air is ducted into the return of the indoor units. The indoor fan coil and connected outdoor heat pump must accommodate inside and outside air loads.

How AIO works

AIO integrates an ERV with the heat pump providing an all-in-one solution with maximum efficiency. Outside air is initially treated by the super-efficient ERV core, recovering up to 86% of the sensible heat from the exhaust air, and the heat pump treats the remainder before it enters the supply air. To further boost efficiency, the heat remaining after passing through the recovery core is used to slightly warm/cool the outdoor heat exchanger, lowering/raising the coil's temperature.

With AIO, just like any other solution with an ERV, a percentage of the heat pump's capacity is used to heat the outside air and must be factored into the load calculation. AIO is available with or without the ERV option; if AIO is used only as a heat pump, all the heat pump's capacity can be utilized for the room's load.

Explanation of the terms

Below is a list of terms used in the specifications and their explanation.

Heat Pump

- **Range**
  AIO's twin rotary inverter compressor enables a wide range of capacities. The capacity range reflects the minimum and maximum capacity of the heat pump. Using AIO in an environment that requires less than the minimum will result in AIO's inverter compressor operating as an on-off compressor. While this will not damage AIO or shorten the lifespan, it will reduce efficiency. It is important to note that a small percentage of the capacity will be utilized to heat/cool the outside air.

  While the capacity range is wide, Ephoca does not recommend using AIO in an environment that consistently requires more than 11,000 BTU. Beyond that limit, AIO is louder and less efficient. The additional capacity is helpful for those occasions when extra capacity is needed.
- **Nominal**
  This is rated capacity, used for efficiency testing purposes. With an inverter-based heat pump, a manufacturer can "lock" the inverter compressor to a specific frequency to control the capacity for a test. This capacity was selected as it achieves the optimum efficiency to capacity ratio. A lower capacity will achieve a more efficient rating but will be officially too small, and a larger capacity will have a less efficient rating with inverter compressors; the lower the frequency (capacity), the better the efficiency. This is what makes inverters so efficient, as most of the time, an inverter will operate at less than half the capacity. This number rating is only provided for official rating purposes and for comparing with similar units in apples-to-apples comparisons.
- **Input power**
  This is the input power to operate AIO at the rated capacity and does not include the input power of the ERV fans. Using AIO in an environment that requires less capacity than the rated will result in less power input, and a higher capacity will use more input power.
- **Efficiency**
  This is the official efficiency of AIO based on AHRI testing standards based on the rated capacity. Using AIO in an environment that requires less than the rated will result in a higher efficiency rating. An environment with higher loads will have a lower efficiency rating. This number is only provided for official rating purposes and to compare with similar units in apples-to-apples comparisons.

Understanding the ratings

ERV

- **Capacity**
  This is the capacity of the ERV based on CFM of outside air. The higher the CFM, the higher the capacity. It is critical to note that the ERV's capacity can only be used to offset the load required to heat/cool the outside air, which will always be greater than the capacity of the ERV. This capacity never be used to heat/cool the inside air.
- **Input power**
  This is the input power of two ERV fans. One pulls outside air through the ERV core; the other pulls the stale air through the ERV core. The higher the CFM of outside air, the higher the input power. The CFM of outside air is fully controllable and can be set anywhere from 10 to 90 CFM. The speed of the ECM fans controls this.
- **Efficiency**
  The effective efficiency of the ERV is exceptionally high, as the only input power is the ECM fan. The efficiency is dependent upon the CFM and related fan power.

Combined Heat Pump + ERV Section

- **Range**
  This reflects the combined capacity range of the heat pump (as described in the heat pump section) and the ERV (as described in the ERV section). This combined capacity range helps compare the capacity required using only a heat pump to heat/cool the outside and inside air instead of an ERV and a heat pump.

  For example, a 12x15 room requires 8,000 BTU, and 35 CFM of outside air requires 3,000 BTU, requiring 11,000 BTU's.

  There are two ways to achieve this:

  - Typical, where all 11,000 BTU are from the heat pump/ electric heat.
  - AIO, with 11,000 BTU of combined capacity. In this case, AIO's heat pump provides 8,000 BTUs for the room and 480 BTU (16% of the 3,000 BTU) for the outside air. The recovery on the ERV would provide the remaining 2,520 BTU required to heat/cool the outside air.

This capacity range is useful as a quick reference to see if AIO will be able to support the combined load of indoor and outside air. This combined capacity can not be used solely for inside air.

- **Nominal**
  This capacity range is useful as a quick reference to see if AIO will be able to support the combined load of indoor and outside air. This combined capacity can not be used solely for inside air.
- **Input power**
  This is the input power to operate AIO at the rated capacity and the input power of the ERV fans. Using AIO in an environment that requires less capacity than the rated will result in less power input and a higher capacity will use more input power.
- **Efficiency**
  The effective efficiency of the heat pump and the ERV is higher than the efficiency of just the heat pump. However, this combined efficiency presents a more accurate picture of the efficiency of AIO as it shows the benefit of a combined ERV heat pump versus other types of configurations.

Testing procedure

AIO Wall Mounted's unique design does not fit any DOE or AHRI standards yet can be tested under AHRI 390 SPVU (Single Package Vertical Unit) or 210/240 Central Air Heat Pump for lack of better options.

However, both 210/240 and 390 are for ducted systems with medium or high static fans. AIO Wall Pro units are not designed to be ducted and use a low-pressure cross-flow blower fan, similar to the type of fan found in a PTAC.

Initially, we chose AHRI 210/240 as it offered a more comprehensive SEER, HSPF, and Energy Star ratings, while AHRI 390 only offered an EER and IEER and no Energy Star program.

During tests at Intertek, the technicians found a substantial loss of capacity and efficiency caused by ducting as required in 210/240 testing standard. This was verified by testing AIO under AHRI 380 as a PTAC where performance was substantially higher. However, AIO Wall Mounted can not be officially tested to AHRI 380, because it does not meet the definitions of a PTAC.

While AIO Wall Mounted's efficiency, when tested without ducting achieved over the required, the ducting brought the SEER below the required minimum. Therefore, we chose to test AIO Wall Mounted under AHRI 390, which only requires an EER of 11.0, which even with the ducting loss factor AIO Wall Mounted was able to meet and exceed.

From a legal and technical perspective, the only official ratings which can be published are ones tested to AHRI 390 by Intertek labs using ductwork. In real-life scenarios, where AIO Wall Mounted units are not ducted, the performance will be better than the official ratings.

AIO is not a PTAC

10 CFR § 430.2 Definition of a PTAC

Packaged terminal heat pump means a packaged terminal air conditioner that utilizes reverse cycle refrigeration as its prime heat source and should have supplementary heating availability by builder's choice of energy.

Packaged terminal air conditioner means a wall sleeve and a separate unencased combination of heating and cooling assemblies specified by the builder and intended for mounting through the wall. It includes a prime source of refrigeration, separable outside louvers, forced ventilation, and heating availability energy.

AIO Wall Mounted can't be classified as a package terminal heat pump because:

- AIO Wall Mounted does not use a wall sleeve which the assembly sits inside.
- AIO Wall Mounted is a monoblock system that does not have a separate unencased combination of heating and cooling assemblies.
- AIO Wall Mounted mounts completely inside the room and is not intended or designed for mounting through a wall.

Therefore, AIO Wall Mounted can not be classified as a Packaged terminal air conditioner according to 10 CFR § 430.2.

AIO is not a room air conditioner

10 CFR § 430.2 Definition of a room air conditioner

Room air conditioner means a consumer product, other than a "packaged terminal air conditioner," which is powered by a single-phase electric current and which is an encased assembly designed as a unit for mounting in a window or through the wall for the purpose of providing delivery of conditioned air to an enclosed space. It includes a prime source of refrigeration and may include a means for ventilating and heating.

AIO Wall Mounted can't be classified as a room air conditioner because:

- AIO Wall Mounted is clearly not "an encased assembly designed as a unit for mounting in a window or through the wall"

Therefore AIO Wall Mounted can not be classified as a room air conditioner according to 10 CFR § 430.2.

AIO Wall Mounted Pro APP10R4L1 Submittal

Products are subject to continuous improvements and Ephoca reserves the right to modify product design, and specifications without notice.

Job	Reference	Construction
Location	Approval	Quote Number
Engineer	Date	Drawing Number
Submitted To	Submitted By:	P.O. Number:

ERV performance

General		
Flow type		Counterflow enthalpy exchanger
Material		Mold and bacteria resistant, washable polymer membrane
ASHRAE compliance		62.1 And 62.2 When used with the ERV module

		15 CFM	25 CFM	40 CFM
Efficiency of core in winter				
Sensible	%	81.4	77.5	72.8
Latent	%	68.5	62.3	56.4
Efficiency of core in summer				
Sensible	%	70.2	65.1	58.2
Latent	%	52.4	53.5	54.7
Filter				
Indoor air	MERV	MERV 3 / optional MERV 13		
Outside air	MERV	MERV 13		
Leakage				
Internal	WC	2.6% at 0.40"	2.4% at 0.40"	2.2% at 0.40"
External	WC	2.8% at 1.0"	2.7% at 1.0"	2.5% at 1.0"

Heat pump performance

Cooling			
Moisture Removal		Pts/h	1.9
Cooling Indoor: 80°F, W.B. 67°F; Outdoor: 95°F, W.B. 75°F	Range	Btu/h	3,300 - 15,100
	Nominal	Btu/h	8,400
	Input Power	W	720
	Efficiency	EER	11.67
		IEER	14.82
Heating			
Sensible Heat Factor		%	86
Heating 47°F Indoor: 70°F, W.B. 60°F; Outdoor: 47°F, W.B. 43°F	Range	Btu/h	3,900 - 14,500
	Nominal	Btu/h	8,100
	Input Power	W	705
	Efficiency	COP	3.37
Heating 13°F Indoor: 70°F, W.B. 60°F; Outdoor: 13°F, W.B. 9°F	Range	Btu/h	3,300 -6,900
	Nominal	Btu/h	6,200
	Input Power	W	910
	Efficiency	COP	2.00
Heating 5°F Indoor: 70°F, W.B. 60°F; Outdoor: 5°F, W.B. 3°F	Range	Btu/h	2,800 -6,600
	Nominal	Btu/h	5,600
	Input Power	W	959
	Efficiency	COP	1.71

Compressor

General		
Type		BLDC twin rotary inverter
Refrigerant	Type	R410a

Airflow

		Indoor	Fresh air	Outdoor
General				
Fan	Motor		ECM	
	Type	Tangential	Centrifugal	Centrifugal
Input power	W	50	30+30	90
Airflow	CFM	160 - 290	15 - 40	200 - 350
ESP	WC	N/A	N/A	0.45"
Speeds		Low, med, high, auto	Auto	Low, med, high, auto

Sound

General		
Indoor	dB(A)	29 - 45
	STC	40
	OITC	35
Outdoor	dB(A)	29 - 56

Electrical

General		
Volt range		115V
Hz/ phase		60 Hz singe phase
Power Cord		Hardwire
Power factor	%	0.96
Cooling (nominal)	A	6.5
Cooling (max)	A	15.7
Heating (nominal)	A	6.1
Heating - heat pump	A	16.5
Circuit breakers		
MCA - heat pump only	A	17
Recommended breaker size	A	20
MOCP	A	35

Warranty

Warranty		
Included	1 Year	Full on-site parts and labor
	9 Year	Compressor only (parts)
Optional Extended	5, 10 and 15 years	Full on-site parts and labor

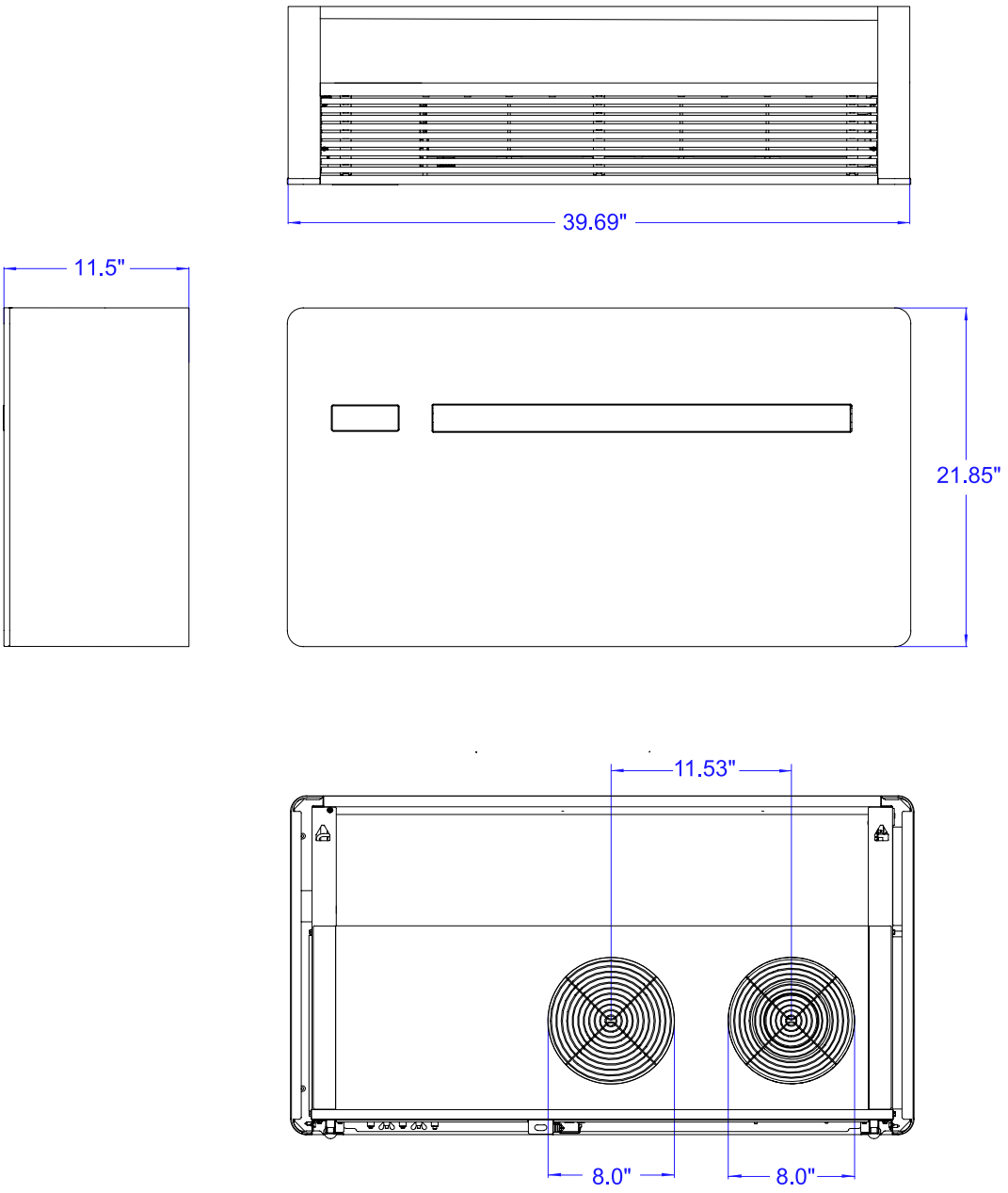
Dimensions

General		
Dimensions	Net	39.7" W x 21.9" H x 11.5" D
	Gross	44" W x 26" H x 15" D
Weight	Net	130 lb
	Gross	135 lb
Cabinet	Material	Steel
	Finish	RAL 9003 signal white

Dimensions

Dimensions

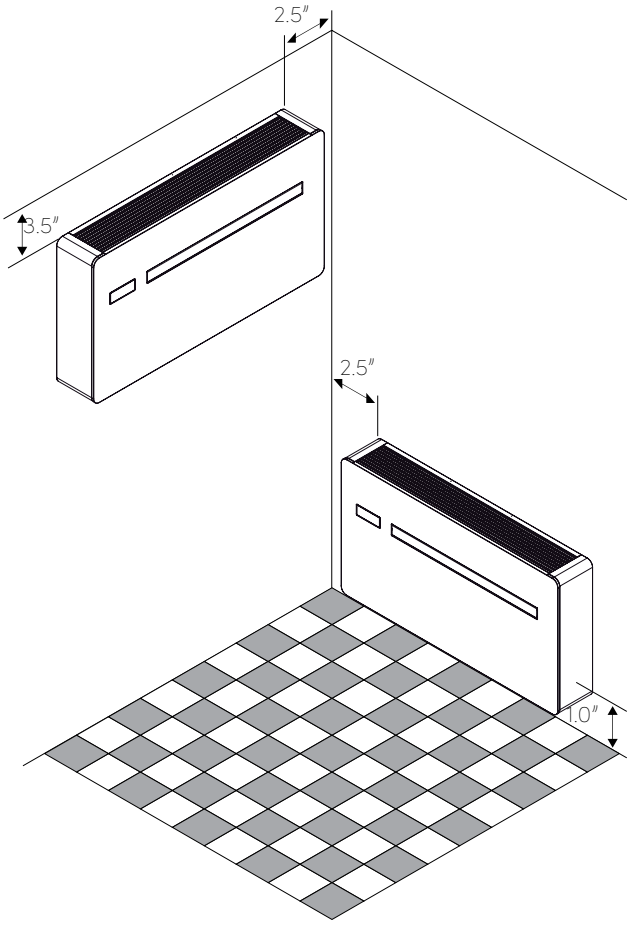
For CAD and DWG files, please scan or click the QR code below.



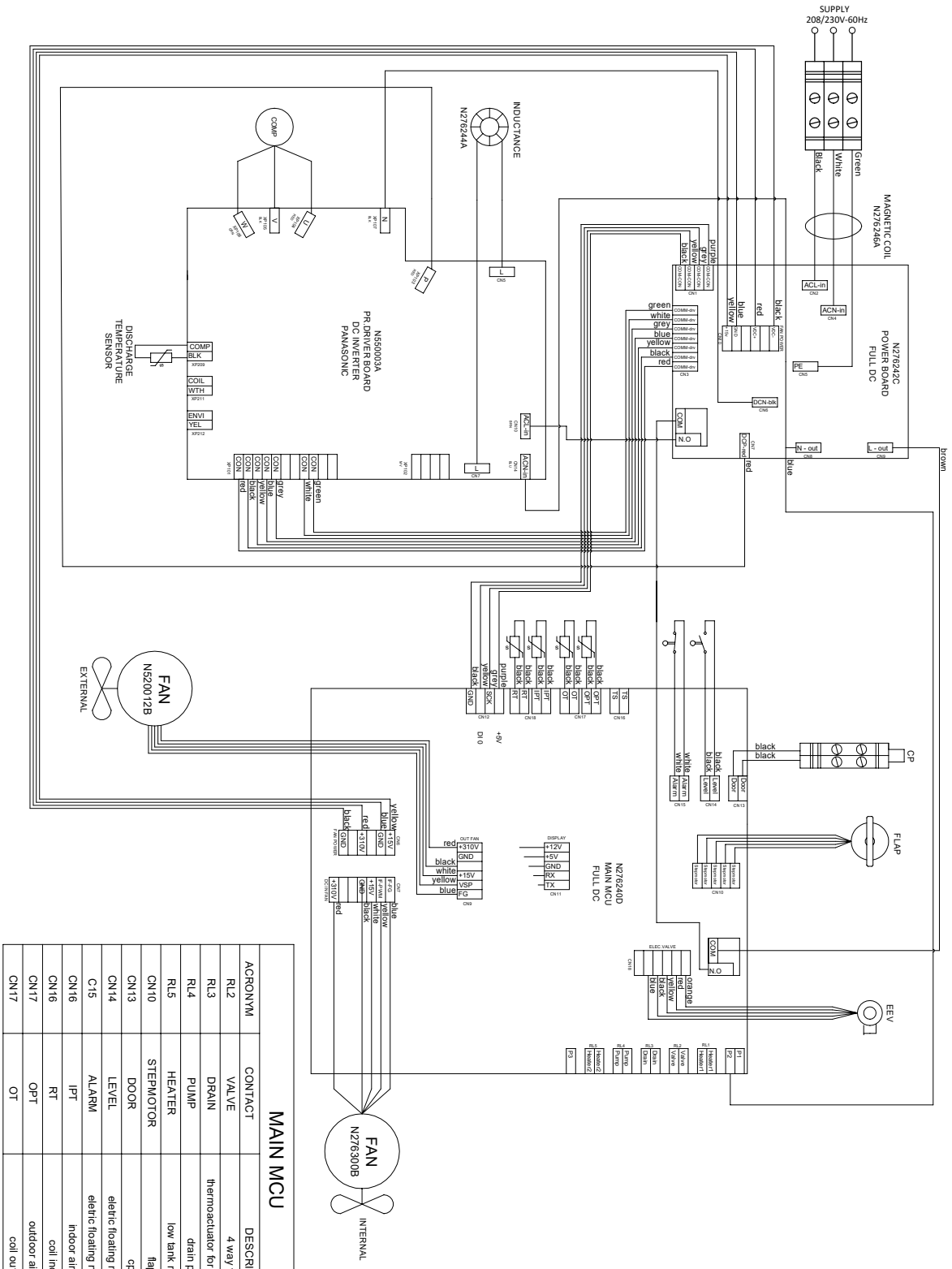
Clearances

The AIO Wall mounted unit's clearance will depend on how it is mounted. Please carefully read the criteria below to determine the correct clearance required.

- **Top - low wall mounted**
  There must be 3.5" minimum clearance to any surface above, such as a shelf, etc. This is needed for the return airflow. 8" of clearance is recommended for ease in changing the filter and servicing the unit.
- **Top - high wall mounted**
  There must be 3.5" minimum clearance from the ceiling. This is needed for the return airflow. 8" of clearance is recommended for ease in changing the filter and servicing the unit.
- **Bottom**
  There must be a minimum of 1" from the floor to eliminate any noise from vibration. 2" of clearance of is ideal to allow the floor under the unit to be cleaned.
- **Sides**
  The AIO Wall mounted unit should not touch the wall on either side as it will vibrate slightly during operation, which may create noise. As little as 1" clearance will suffice to eliminate any noise from vibration. A clearance of 2.5" on the sides allows for easier access when removing and installing the unit.
- **Front**
  Ensure no curtains, furniture, plants, or any material is within 30" in front of the unit. The supply air vent is on the front, and blocking it will inhibit the airflow and the unit from working correctly.
- **Rear**
  The rear of the unit must be tight to the wall so there are zero gaps between the wall and the unit. Gaps can allow outside air inside and create short cycling and humidity. If there are any gaps, they must be sealed with insulation.
- **Exterior**
  On the exterior of the building, there should be no obstacles blocking the airflow from the louver. There must be a least 36" of free and clear space in front of the louvers.



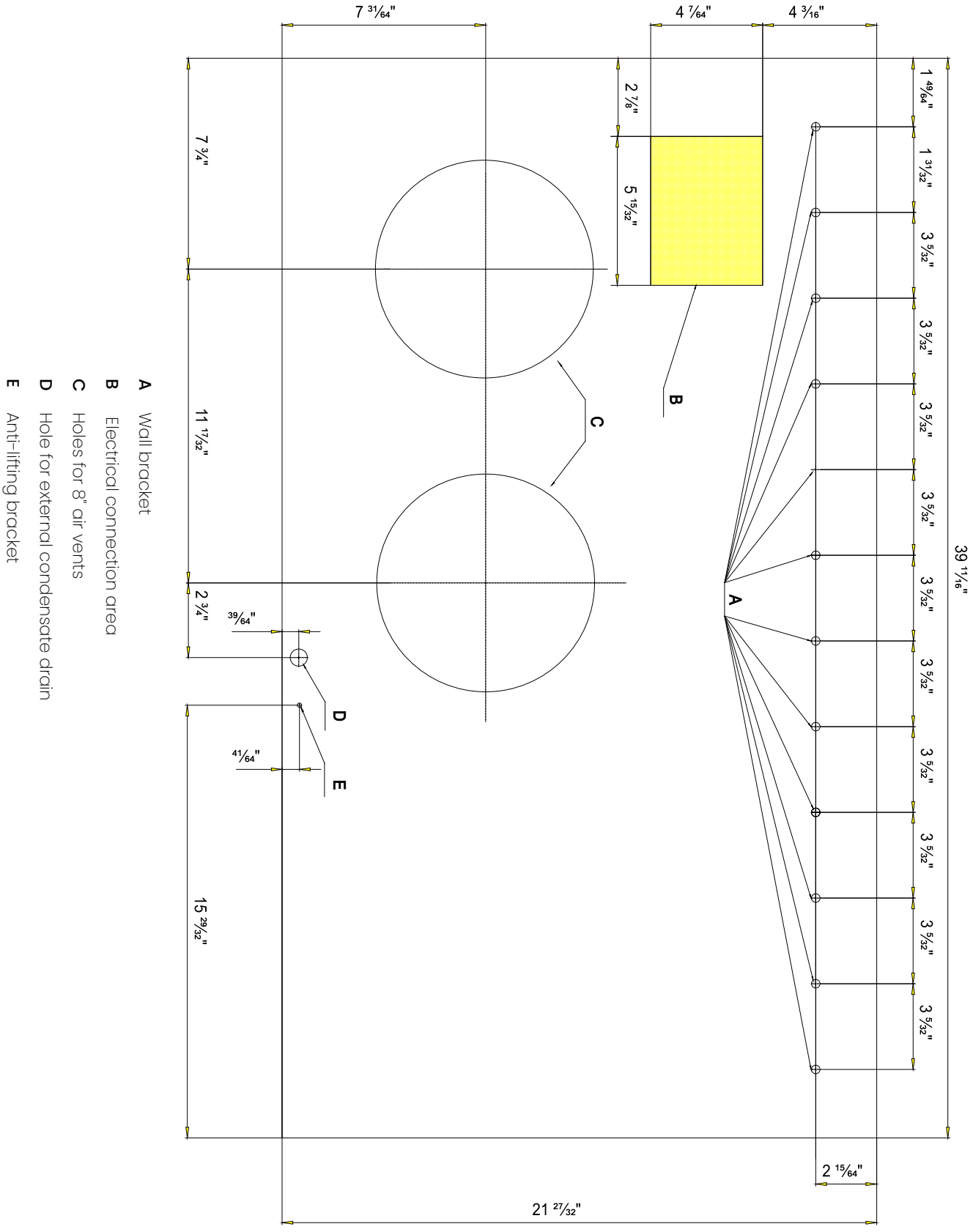
Wiring diagram



MAIN MCU

ACRONYM	CONTACT	DESCRIPTION
RL2	VALVE	4 way valve
RL3	DRAIN	thermoactuator for drain open-close
RL4	PUMP	drain pump
RL5	HEATER	low tank resistant
CN10	STEPMOTOR	flap
CN13	DOOR	cp
CN14	LEVEL	eletric floating normally open
C15	ALARM	eletric floating normally close
CN16	IPT	indoor air sensor
CN16	RT	coil indoor
CN17	OPT	outdoor air sensor
CN17	OT	coil outdoor

Mounting template



A Wall bracket

B Electrical connection area

C Holes for 8" air vents

D Hole for external condensate drain

E Anti-lifting bracket

Warranty Terms and conditions

This limited warranty is valid in the Continental United States only and only for the AIO series heat pump which was purchased and installed in its original installation location.

This warranty is only valid when the AIO series heat pump air conditioner meets all the conditions below:

- Purchased from an Ephoca authorized distributor.
- Installed by an Ephoca certified technician.
- The installation was certified by an Ephoca technician before the AIO series heat pump was used.
- AIO is operated and maintained in accordance with the printed instructions in the user guide and in compliance with applicable local installation and building codes and good trade practices.

What This On-Site Warranty Covers

Ephoca, Inc. ("Ephoca") warrants your AIO series heat pump air conditioner ("AIO") against failure due to defects in materials or workmanship under normal use, beginning on date of certification by the Ephoca technician for the following periods:

Full One-Year

For the period of one year from the date of certification by the Ephoca technician, Ephoca will replace any part of the AIO which fails due to a defect in materials or workmanship. During this full one-year warranty, Ephoca will provide, on-site, free of charge, all labor and related service costs to replace the defective part. If you are located in an area where we do not have Ephoca certified technician, we will ship you a replacement unit at our cost and arrange to pick up the defective unit at our cost.

Limited Ten-Year Warranty On Compressor

For the period of ten-years from the date of certification by the Ephoca technician, Ephoca will replace the compressor part should it fail due to a defect in materials or workmanship. During this limited ten-year compressor warranty, Ephoca will provide a replacement compressor, however, you will be responsible for all labor costs and related service costs.

Optional Extended Five, Ten and 15 Year Comprehensive Warranty

A comprehensive extended warranty is available for Five, ten, and fifteen years from the date of certification by the Ephoca technician.

During this extended warranty, Ephoca will replace any part of the AIO which fails due to a defect in materials or workmanship. During this extended warranty period, Ephoca will provide, on-site, free of charge, all labor and related service costs to replace the defective part. If you are located in an area where we do not have Ephoca certified technician, we will ship you a replacement unit at our cost and arrange to pick up the defective unit at our cost.

Extended warranties must be purchased directly from Ephoca within 90 days of installation.

Warranty Terms and conditions

Exclusions And Limitations

The warranty shall not cover:

- Any AIO purchased from a non-authorized or out-of-state dealer.
- Any service, part or repair if AIO has not been certified Ephoca technician prior to use.
- Any failure due to or following unauthorized repairs, or repairs performed by unauthorized personnel.
- Installation of AIO, setup of user controls or adjustments to user controls.
- Instruction on user operation.
- Labor costs after the first year, or service trips to deliver or pick up parts not covered by the warranty.
- Replacement of fuses or circuit breakers, wiring or plumbing connections.
- Damage to AIO where there is a corrosive atmosphere containing any damaging chemical such as chlorine or fluorine (other than that normally occurring in a residential environment).
- Cleaning or replacing air filters.
- Removing AIO from inaccessible locations.
- Correcting improper installations.
- Any AIO not installed pursuant to applicable regional efficiency standards issued by the Department of Energy or other local rules and ordinances.
- Failure of AIO due to acts of God, natural disasters, power failures, interruptions, brownouts or power spikes, or due to incorrect inadequate electrical service or failure of Internet Services or Home Networks.
- Any AIO with altered, missing or defaced serial number.
- Damages or personal injury caused directly or indirectly by failure or malfunction of AIO as a result of any cause including natural disasters, accidents, misuse, improper wiring or installation.
- Any cost of Supplemental (replacement) Cooling or Heat during equipment failure.
- Any cost to replace, refill or dispose of refrigerant, including the cost of refrigerant.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD(S) ABOVE.

NEITHER EPHOCA NOR ITS DISTRIBUTOR SHALL BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PRODUCTIVE DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, OR ANY OTHER DAMAGE WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. FOR A PARTICULAR USE OR PURPOSE.

NO ONE IS AUTHORIZED TO CHANGE THIS WARRANTY CERTIFICATE OR TO CREATE FOR US ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH THIS AIR CONDITIONER.

NO OTHER WARRANTY, EXPRESSED OR IMPLIED, IS APPLICABLE TO THIS PRODUCT.

Some states do not allow the exclusion or limitation of incidental/consequential damages or limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you. This warranty gives you, the original purchaser, specific legal rights; you may also have other rights that vary from state to state.

This warranty does not cover any additional responsibilities or obligations not expressly stated herein nor does it apply to any accessory that is not a part of the AIO as included in the package by Ephoca.

With over 15 years of experience in the climate comfort sector, we have a clear goal: growth through innovation. Our team is laser-focused on the conception, development, and production of innovative heating, ventilation, and air conditioning solutions. This mission has developed through bringing together technical skills, creativity, technology, design, Italian passion, and a global vision to achieve the best energy efficiency and performance.

Ephoca is the US subsidiary of Innova SRL - Via 1° Maggio, 8 – 38089 Storo (TN) Italy.

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MADE IN ITALY