



## **EZ Series VP & EZ Series VR (DR. VTAC option)**

Perfect fit for Replacing Existing GE 8500 & 7500 Series Friedrich Vertical and for New Construction Projects



# ENGINEERING MANUAL

MANUFACTURER OF QUALITY AIR CONDITIONING AND HEATING PRODUCTS

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*Islandaire reserves the right to make changes in design and construction at any time without notice.*

# INTRODUCTION

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## OUR COMPANY

Islandaire is the fastest growing specialty air conditioning and heating manufacturer in the country. Founded in 1992 by Robert Hansen, it has grown into a multi-million dollar company in just a few short years. Islandaire builds a full complement of high quality thru-the-wall replacement air conditioners and heat pumps, water source heat pumps, and gas units in East Setauket, New York. Each model fits perfectly into the existing original wall case assembly, thereby saving both time and money during installations.

Our Engineering, Production, Sales and Customer Service departments have been fully integrated to provide the maximum degree of user satisfaction. We at Islandaire feel that this team approach to manufacturing produces a superior overall product and assures a larger degree of flexibility in design and production scheduling to meet tight prototyping or construction timetables.

## THE PERFECT FIT

Thru-wall air conditioners were developed in the late 1950's. Over the next forty years many companies engineered, manufactured and installed a variety of different units throughout the United States and Canada. Today, a number of these companies are no longer in business or have discontinued their line of thru-wall air conditioners and no longer carry replacement parts.

Islandaire offers replacement air conditioners and heat pumps that are interchangeable with units no longer available from the original manufacturer. Our units are engineered to fit perfectly within the existing wall case, thereby reducing installation time and expense. They are manufactured at our modern 75,000 square foot plant on Long Island in New York.

Thank you for considering our products,

The Islandaire Team

# APPLICATIONS

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The EZVP and EZVR Series vertical terminal air conditioning (VTAC) units are designed and manufactured for new construction or the replacement of units in an existing building. Our VTAC units provide year-round comfort control for hotels, motels, apartments, dormitories, shops, nursing homes, assisted living centers, satellite offices, room additions and other applications that require economical heating and cooling.

The product is designed for individually-zoned, comfort-controlled heating and cooling. We offer our cooling chassis to operate with cooling only or electric heat. The design standards, heavy duty construction and the focus on indoor noise reduction has established our product as the premier unit of the future. Individually controlled VTAC units are ideal for rooms that are not occupied, such as during vacancies, holidays, weekends or nights. Individual units permit tenants to choose their own degree of comfort and operating economy.

Temperature and fan settings are controlled via wall thermostat. In addition, all units have the flexibility of working with controls that integrate with an energy management system. Whether you are designing a new structure or replacing VTAC units in an existing building, Islandaire will meet your needs.

## NEW CONSTRUCTION

The Islandaire VTAC unit is designed to meet the needs of the architect, engineer, and contractor. For unit installation, Islandaire's expert support network will assist in all applicable aspects of the construction project, from preparing a budget to start-up.

## ADVANTAGES FOR NEW CONSTRUCTION

- Lower Operating Costs and Reliable Comfort for the Occupant
- Design Flexibility For The Architect/Engineer
- Super-quiet performance, indoors and out
- No bulky duct system needed
- No separate equipment room
- No water towers or additional cooling equipment
- Optional architectural grille to permit custom exterior appearance

Islandaire helps lower utility costs with energy efficient units that exceed industry standards. Energy savings are achieved in both heating and cooling environments through efficient mechanical design and onboard electronic logic. Separate indoor and outdoor fans provide lower operating costs. Energy management capability is built into the unit's standard digital controls.

These units may also qualify for electrical power company rebates. Consult your local utility provider for rebate opportunities.

## RETROFIT/ REPLACEMENT

Islandaire VTAC units are engineered to fit perfectly within existing GE wall cases, thereby reducing installation time and expense. There is no time wasted on redesigning an existing wall opening or removing an old wall case. Just slide the old chassis out and replace with a new one from Islandaire.

Our EZ Quick slide-out chassis eases installation into the wall case. Rapid servicing reduces downtime; the complete chassis can be replaced in minutes without disrupting other occupants.

# APPLICATIONS (CONT.)

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## APPLICATION CONSIDERATIONS

It is important for air conditioning systems to be properly sized for each application in order to achieve desired temperature and humidity levels. It is strongly recommended that a professional engineer match the VTAC units with the building structure and regional climate.

The following application considerations are all important in choosing the proper VTAC system for the building structure.

### UNDERSIZING

If a VTAC unit is undersized (cooling capacity is less than required capacity for the specific application), the unit will not be able to cool the space down to the desired temperature during very hot days, causing excessive power consumption.

### OVERSIZING

If a VTAC unit is oversized (cooling capacity is greater than required capacity for the specific application), the unit will cool the space down to the desired temperature too quickly, creating a cool yet excessively humid space.

### AIR INFILTRATION

Excessive air infiltration can intensify problems associated with undersizing or oversizing a VTAC unit. This can be the cause of insufficient cooling, dehumidification, or heating. Sources of air infiltration include vents, gaps around windows and doors, and improperly sealed floors, ceiling or wall joints.

## GUARANTEED QUALITY

Each Islandaire unit is designed to operate quietly and efficiently and is backed by the best warranty program available. Standard warranty is for one year parts and labor including five year compressor part only warranty, or two year parts only including five year compressor part only warranty.

Whether it is an exact replacement unit or a new construction project, Islandaire is the smart choice for all your air conditioning and heating needs.

## INDOOR AIR QUALITY - DR.VTAC

In addition to an already quiet unit, we have developed an indoor air quality option called the DR.VTAC.

DR.VTAC is a two-stage system. The primary stage conditions room air and tempers the air to acceptable air quality levels. The secondary stage brings in conditioned outside air at a rate of up to 75 CFM, to compensate for toilet exhaust and room occupancy, and continuously pressurizes the room. The secondary stage is initiated by an outdoor humidistat that allows the unit to condition the incoming fresh air to about 55% RH. The system can be calibrated to run at higher outdoor RH levels, but the recommended maximum set point is 55% outdoor RH. When outdoor RH levels are above the set point, the secondary compressor is initiated and conditions make up air.

The secondary fan continuously runs allowing fresh, conditioned, make-up air at a rate of up to 75 CFM (leaving coil CFM) to enter the room. The unit is manufactured in accordance to AHRI, UL, CSA standards for the primary side and AHAM and UL standards for the secondary side.

# PRODUCT OVERVIEW

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## QUIET OPERATION

The VTAC unit provides whisper quiet operation while delivering maximum airflow required for proper air circulation. Separate indoor and outdoor fan motors further reduce operating sound levels and costs.

The heavy gauge construction of the chassis and cabinet minimizes vibration for quieter operation. Vibration isolators on the rotary compressor keep it running smoothly and quietly. The unit bulk-head is fully insulated to decrease outdoor sound transmission.

## DURABLE CONSTRUCTION

- Islandaire VTAC units are built with durable quality components designed for continuous operation in all environments.
- Our wall cases are constructed of 18-gauge thick galvanized steel for maximum durability.
- The outdoor fan motor is totally enclosed, preventing damage from moisture and debris introduced by extreme weather conditions. Both indoor and outdoor fan motors are permanently lubricated for extended life.
- Electrical components are located on the indoor side of the wall protecting them from driving rain and humidity.
- The compressor is a reliable, high-efficiency design rotary compressor. It is hermetically sealed and built for continuous operation.

## CORROSION PROTECTION

All Islandaire VTAC units have special corrosion protection that can help dramatically extend the life of the unit. Listed below are just some of the components that feature corrosion protection:

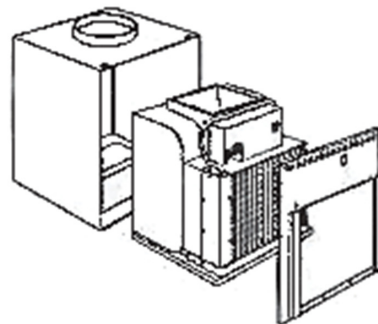
- **Wall Case** - The entire wall case is constructed of 18-gauge galvanized steel.
- **Base Pan** - The base pan is constructed of 18-gauge galvanized steel with powder coat paint finish to protect it from the elements.
- **Condenser Fan Blade** - Constructed of strong engineered plastic that has excellent flame-resistance and dimensional stability over a wide range of service temperatures.
- **Condenser Fan Motor** - Specially coated by the manufacturer to resist corrosion.
- **Compressor** - Protectively-coated exterior to enhance equipment life and performance.
- **Outdoor Louver** - Made of aluminum, etched and anodized for maximum corrosion protection. Available in various architectural styles. Can be painted in a wide choice of colors.

# CHASSIS FEATURES AND BENEFITS

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## SLIDE OUT CHASSIS –

- Slide-out chassis makes installation simple
- All components are readily accessible to service personnel
- On-board diagnostic software and display help diagnose potential problems
- Designed to replace older units with minimal modification
- Isolated rotary compressor design for continuous efficient, reliable and quiet operation

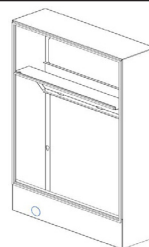


*See page 21 for chassis installation instructions*

## WALL PLENUM –

- Heavy 18 gauge steel with powder paint coating for maximum scratch, dent and corrosion resistance
- Optional wall depths of 6”, 8”, 10”, 12”, and 15” available

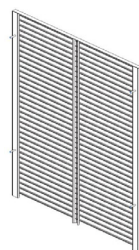
*See page 17 for wall plenum installation instructions*



## EXTERIOR LOUVER/GRILLES –

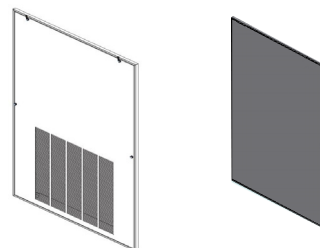
- Architectural extruded aluminum grille
- Custom colors available (Ask for our color chart sheet)
- Recessed available

*See page 18 for exterior grille installation instructions*



## REMOVABLE ACCESS PANEL –

- Made from durable, powder-coated metal that won't rust, resists scratches and is easy to clean
- Quick removal ensures shorter installation time and faster service calls
- Easy access to removable filters
- Optional Sound-Reduction Grille for quieter operation



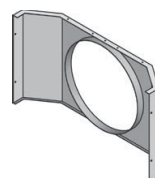
## SLINGER FAN –

- Curved fan blades increase airflow across the outside coil
- Creates a quiet operating environment outside of building
- Slinger ring efficiently removes condensate and increases cooling



## VENTURI SHROUD –

- Works with the fan to maximize air flow and increase efficiency
- Removes easily for quick access when cleaning the condenser coil



# EZ SERIES VP DATA

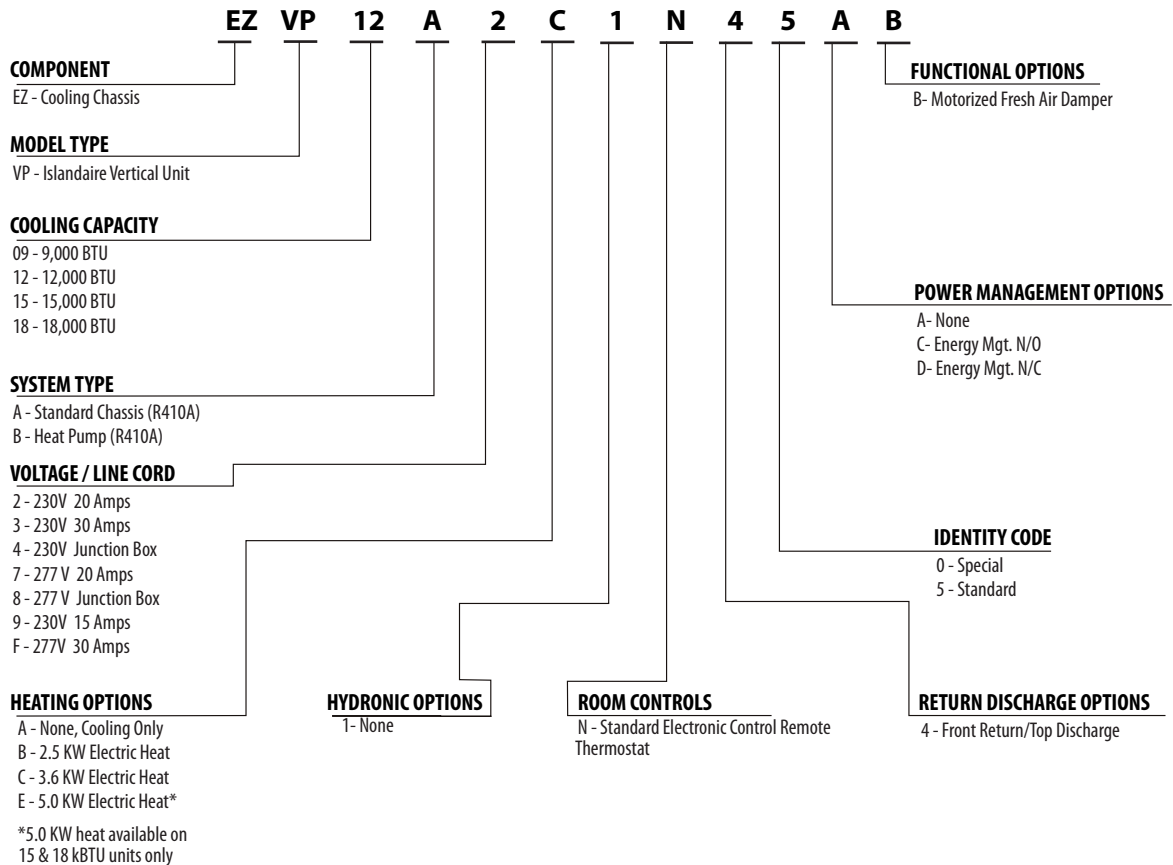
## MODEL NOMENCLATURE

Please review the nomenclature/model number breakdown below for the EZ Series VP options.

Units are available in four cooling BTUh capacities: 9,000; 12,000; 15,000; 18,000

**Voltage options are:** 208/230V or 277V

Control choices include multiple-wired, wall-mounted heating/cooling thermostats and a wireless wall thermostat, with occupancy sensor control.



### FEATURES:

- 18 gauge galvanized, powder-coat painted wall plenum
- Motion sensor/door switch capable
- Superior temperature control
- Dehumidification of room air
- Wall thermostat required
- Compressor freeze protection
- Self diagnosis
- Random Auto Re-start
- Compressor time delay
- Front desk control capable
- Room side freeze protection
- Motorized fresh air damper
- Power disconnect
- High pressure cutout

### ACCESSORIES:

- Wired remote thermostat
- Wireless remote thermostat
- Energy Management Thermostat
- I.R. motion sensor
- Door switch
- Access Panel (louvered, non-louvered, and sound-reduction types)
- Return Air Grille

### OPTIONS:

- Architectural Louver



# EZ SERIES VP DATA (CONT.)

## PERFORMANCE DATA FOR EZ SERIES VP






	EZ09		EZ12		EZ15		EZ18	
	208-230	265-277	208-230	265-277	208-230	265-277	208-230	265-277
VOLTS	208-230	265-277	208-230	265-277	208-230	265-277	208-230	265-277
COOLING BTUH	8900	8900	11700	11700	14800	14800	17500	17500
COOLING LATENT BTUH	2225	2225	2925	2925	3700	3700	4375	4375
COOLING SENSIBLE BTUH	6675	6675	8775	8775	11100	11100	13125	13125
AMPS	3.87	3.21	5.09	4.22	6.43	5.34	7.61	6.32
COOLING WATTS	890	890	1170	1170	1480	1480	1750	1750
EER	10	10	10	10	10	10	10	10
CFM HIGH SP 0.1"	424	424	482	482	532	532	565	565
CFM LOW SP 0.1"	370	370	421	421	475	475	525	525
HEATING BTUH	8400	8400	10900	10900	13400	13400	15500	15500
HEATING WATTS	820	820	1065	1065	1309	1309	1514	1514
COP	3	3	3	3	3	3	3	3

Heating capacities specified in accordance with ANSI/AHRI standard 390 at conditions of 47 °F DB/43 °F WB outdoor and 70 °F DB/60 °F WB indoor. Wattage, amperage, COP, EER listings include compressor, evaporator motor and condenser fan motor. Cooling capacities specified in accordance with ANSI/AHRI standard 390 at conditions of 95 °F DB/75 °F WB outdoor and 80 °F/67 °F WB indoor.

### HEATING OPTIONS

Heating Option	Voltage (1)	Wattage	B.T.U.s (2)	Amps (3)	MCA (4)	MOP (Amps)	Power Cord
B	208	2,050	7,000	10.46	13.1	15	6-15
	230	2,500	8,535	11.47	14.3	15	6-15
	277	2,500	8,535	9.63	12.0	15	7-20
C	208	2,950	10,070	14.78	18.5	20	6-20
	230	3,600	12,290	16.25	20.3	20	6-20
	277	3,600	12,290	13.60	17.0	20	7-20
E	208	4,100	14,000	20.31	25.4	30	6-30
	230	5,000	17,070	22.34	27.9	30	6-30
	277	5,000	17,070	18.65	23.3	30	7-30

(1) Voltage is 60Hz, Single Phase, Alternating Current and R.M.S. (2) Heating Capacity (B.T.U./Hr.) based on indoor blower motor and heating elements. (3) Amp values are a combination of indoor blower motor and heating elements.

ELECTRICAL	EZVR				
	208/230	208/230	208/230	277	277
LINE VOLTAGE	208/230	208/230	208/230	277	277
MAXIMUM AMPERAGE	12	16	24	16	24
WALL SOCKET CONFIGURATION					
RECEPTACLE NUMBER	NEMA 6-15R	NEMA 6-20R	NEMA 6-30R	NEMA 7-20R	NEMA 7-30R
ELECTRICAL HEAT OPTIONS	2.5	2.5 - 3.6	4.2 - 5.0	2.5 - 4.2	2.5 - 4.2

\* All data is subject to change

# EZ SERIES VR DATA

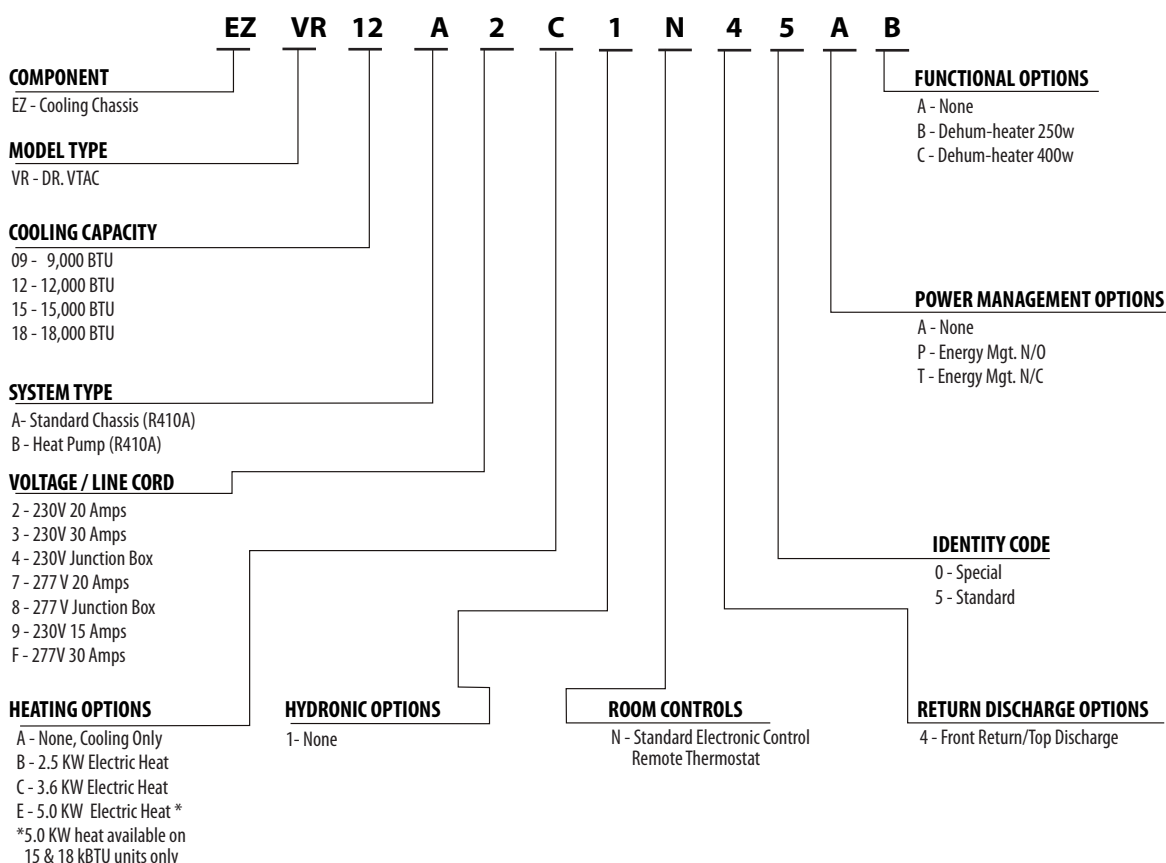
## MODEL NOMENCLATURE

Please review the nomenclature/model number breakdown below for the EZ Series VR options.

Units are available in four cooling BTUH capacities: 9,000; 12,000; 15,000; 18,000

Voltage options are: 208/230V or 277V

Control choices include multiple-wired, wall mounted heating/cooling thermostats and a wireless wall thermostat, with occupancy sensor control



### FEATURES:

- 18 gauge galvanized, powder-coat painted wall plenum
- Up to 75 CFM Continuous Conditioned fresh air
- Motion sensor/door switch capable
- Superior temperature control
- Dehumidification of room air
- Wall thermostat required
- Compressor freeze protection
- Self diagnosis
- Random Auto Re-start
- Compressor time delay
- Front desk control capable
- Room side freeze protection
- Power disconnect
- High pressure cutout

### ACCESSORIES:

- Wired remote thermostat
- Wireless remote thermostat
- Energy Management Thermostat
- I.R. motion sensor
- Door switch
- Access Panel (louvered, non-louvered, and sound-reduction types)
- Return Air Grille

### OPTIONS:

- Electric heat add-on for the DR.VTAC fresh air system for cold climates
- Architectural Louver

### LEED\* POINTS ACHIEVED:

1. Energy Efficient Design and compliance with ASHRAE 62.1 and ASHRAE 90.1
2. Indoor Environmental Quality with improved indoor air quality (IAQ) through make up air
3. Innovation in design through the use of a "Make Up Air VTAC"
4. Regional Design through the use of DR. VTAC in high-humidity climates
5. Recycling/reusing DR.VTAC in secondary market where the "first costs" are prohibitive to owners

\* LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED)

# EZ SERIES VR DATA (CONT.)

## PERFORMANCE DATA FOR EZ SERIES VR

	EZ09		EZ12		EZ15		EZ18	
VOLTS	208-230	265-277	208-230	265-277	208-230	265-277	208-230	265-277
COOLING BTUH	8900	8900	11700	11700	14800	14800	17500	17500
COOLING LATENT BTUH	2225	2225	2925	2925	3700	3700	4375	4375
COOLING SENSIBLE BTUH	6675	6675	8775	8775	11100	11100	13125	13125
AMPS	3.87	3.21	5.09	4.22	6.43	5.34	7.61	6.32
COOLING WATTS	890	890	1170	1170	1480	1480	1750	1750
EER	10	10	10	10	10	10	10	10
CFM HIGH SP 0.1"	424	424	482	482	532	532	565	565
CFM LOW SP 0.1"	370	370	421	421	475	475	525	525
CONDITIONED MAKE UP AIR (CFM)	55	55	55	55	55	55	55	55
HEATING BTUH	8400	8400	10900	10900	13400	13400	15500	15500
HEATING WATTS	820	820	1065	1065	1309	1309	1514	1514
COP	3	3	3	3	3	3	3	3
DEHUMIDIFIER 250W HEATER AMPS (OPT)	1.09	0.90	1.09	0.90	1.09	0.90	1.09	0.90
DEHUMIDIFIER 400W HEATER AMPS (OPT)	1.74	1.44	1.74	1.44	1.74	1.44	1.74	1.44
DEHUMIDIFIER AMPS	1.13	0.90	1.13	0.90	1.13	0.90	1.13	0.90
DEHUMIDIFIER WATTS	260	207	260	207	260	207	260	207
DEHUMIDIFIER LITERS/DAY*	7.90	7.90	7.90	7.90	7.90	7.90	7.90	7.90
DEHUMIDIFIER CFM	55	55	55	55	55	55	55	55
DEHUMIDIFIER CONTROL	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic

Heating capacities specified in accordance with ANSI/AHRI standard 390 at conditions of 47 °F DB/43 °F WB outdoor and 70 °F DB/60 °F WB indoor. Wattage, Amperage, COP, EER listings include compressor, evaporator motor and condenser fan motor. Cooling capacities specified in accordance with ANSI/AHRI standard 390 at conditions of 95 °F DB/75 °F WB outdoor and 80 °F DB/67 °F WB indoor.  
\*AHAM condition 60% RH, 80 °F DB






### HEATING OPTIONS

Heating Option	Voltage (1)	Wattage	B.T.U.s (2)	Amps (3)	MCA (4)	MOP (Amps)	Power Cord
<b>B</b>	208	2,050	7,000	10.46	13.1	15	6-15
	230	2,500	8,535	11.47	14.3	15	6-15
	277	2,500	8,535	9.63	12.0	15	7-20
<b>C</b>	208	2,950	10,070	14.78	18.5	20	6-20
	230	3,600	12,290	16.25	20.3	20	6-20
	277	3,600	12,290	13.60	17.0	20	7-20
<b>E</b>	208	4,100	14,000	20.31	25.4	30	6-30
	230	5,000	17,070	22.34	27.9	30	6-30
	277	5,000	17,070	18.65	23.3	30	7-30

(1) Voltage is 60Hz, Single Phase, Alternating Current and R.M.S. (2) Heating Capacity (B.T.U./Hr.) based on indoor blower motor and heating elements. (3) Amp values are a combination of indoor blower motor and heating elements.

### Dehumidifier Capabilities

Outdoor % RH	Outdoor Temp (F)	H2O Removal (L/Day)
60	80	7.9
60	90	7.8
62	84	9.6
70	81	11.18
85	90	14.4
82	82	17.02

ELECTRICAL	EZVR				
	LINE VOLTAGE	208/230	208/230	208/230	277
MAXIMUM AMPERAGE	12	16	24	16	24
WALL SOCKET CONFIGURATION					
RECEPTACLE NUMBER	NEMA 6-15R	NEMA 6-20R	NEMA 6-30R	NEMA 7-20R	NEMA 7-30R
ELECTRICAL HEAT OPTIONS	2.5	2.5 - 3.6	4.2 - 5.0	2.5 - 4.2	2.5 - 4.2

# PRODUCT INFORMATION

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The Dr. VTAC system is an add on system to our standard VTAC unit to provide conditioned make up air into a space through the VTAC unit by providing up to 75 CFM of outdoor air 24/7 by forced fan and cycling dehumidifier compressor based on outdoor relative humidity levels.

Dr. VTAC was created to solve issues with dehumidification in rooms and to introduce fresh air due to deficiencies of oxygen levels. Dr. VTAC is not only a VTAC, it is also a Conditioned Make Up Air unit. New ASHRAE studies show that many illnesses in hotel rooms can be attributed to an oxygen-deficient atmosphere. Dr. VTAC solves this issue by introducing conditioned make up air that satisfies both humidity level introduction and supplied oxygen.

Dr. VTAC is a two-stage system. The primary unit is responsible for control of Sensible Heat that is introduced into the room via make up air temperature and thermal load of the occupants. The secondary unit is primarily a dehumidification unit that provides up to 75 CFM of outside fresh air into the room. The correction of the Sensible Temperature comes from the main VTAC system, which provides additional dehumidification with temperature correction. Overall unit efficiency, as compared with standard VTAC's, is approximately 3% improvement. The compressor/dehumidification process is controlled by a humidistat (factory set at 50% RH) that monitors the outdoor relative humidity level and is adjustable by a qualified service person. Below 50% RH, compressor operation and dehumidification is stopped. However, fan operation continues to provide up to 75 CFM of outdoor air into the room.

The dehumidification system has a temperature switch that monitors both the refrigeration and the outdoor air temperatures. If the outdoor air falls below 38 °F, the compressor is disabled with fan operation continuing to provide outdoor air into the space. All dehumidifier controls and safeties are automatically reset. An optional air tempering heater is available for the fresh air system for applications where operation in cold winter climates is required. Condensate from the dehumidifier drains into the VTAC drain pan, where it is slung onto the condenser coil for re-evaporation outside when the A/C runs. Excess condensate is drained into the wall case which can then either drain to the outside through the louver OR be piped to a field-supplied drainage system.

## **ADVANTAGES OF THE DR. VTAC SYSTEM:**

1. Lower installation/renovation costs than typical DOAS\*
2. Decrease inconvenience to customer due to construction/installation of a DOAS\* system
3. Precise humidity control in a room as compared to a simple VTAC vent or power vent system
4. Allows fresh make up air to travel entirely across sleeping and living areas of a room, exiting through a duct or under the door.

\*DOAS = Dedicated Outdoor Air System

# PRODUCT INFORMATION (CONT.)

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## HEAT PUMP FEATURES

Heat pump models offer substantial savings over models with conventional electric resistance heaters.

When the outdoor coil temperature is above 27 °F (approximately 35 °F outdoor-air temperature), the heat pump draws heat from outdoor air and uses it to heat indoor air. Since the heat supplied to the room is the result of reversing the refrigeration cycle, the heat pump uses less power than a conventional heating system, therefore reducing energy costs.

### Outdoor Thermostat:

During the heating cycle, the outdoor thermostat senses outdoor coil temperature. If the outdoor coil temperature falls below 20 °F (approximately 35 °F outdoor-air temperature), the unit automatically switches to a backup electric heater. The compressor stops and a blower circulates warm air produced by the heater.

The thermostat automatically switches the unit back to heat pump operation when the outdoor coil temperature rises above 40 °F, which is enough to provide heat to meet demand. The entire operation is completely automatic.

### Reversing Valve:

The reversing valve controls the direction of refrigerant flow for both heating and cooling functions and remains energized as long as the controls are in the heat position. When the cooling controls are activated, the valve automatically reverses to the cooling position.

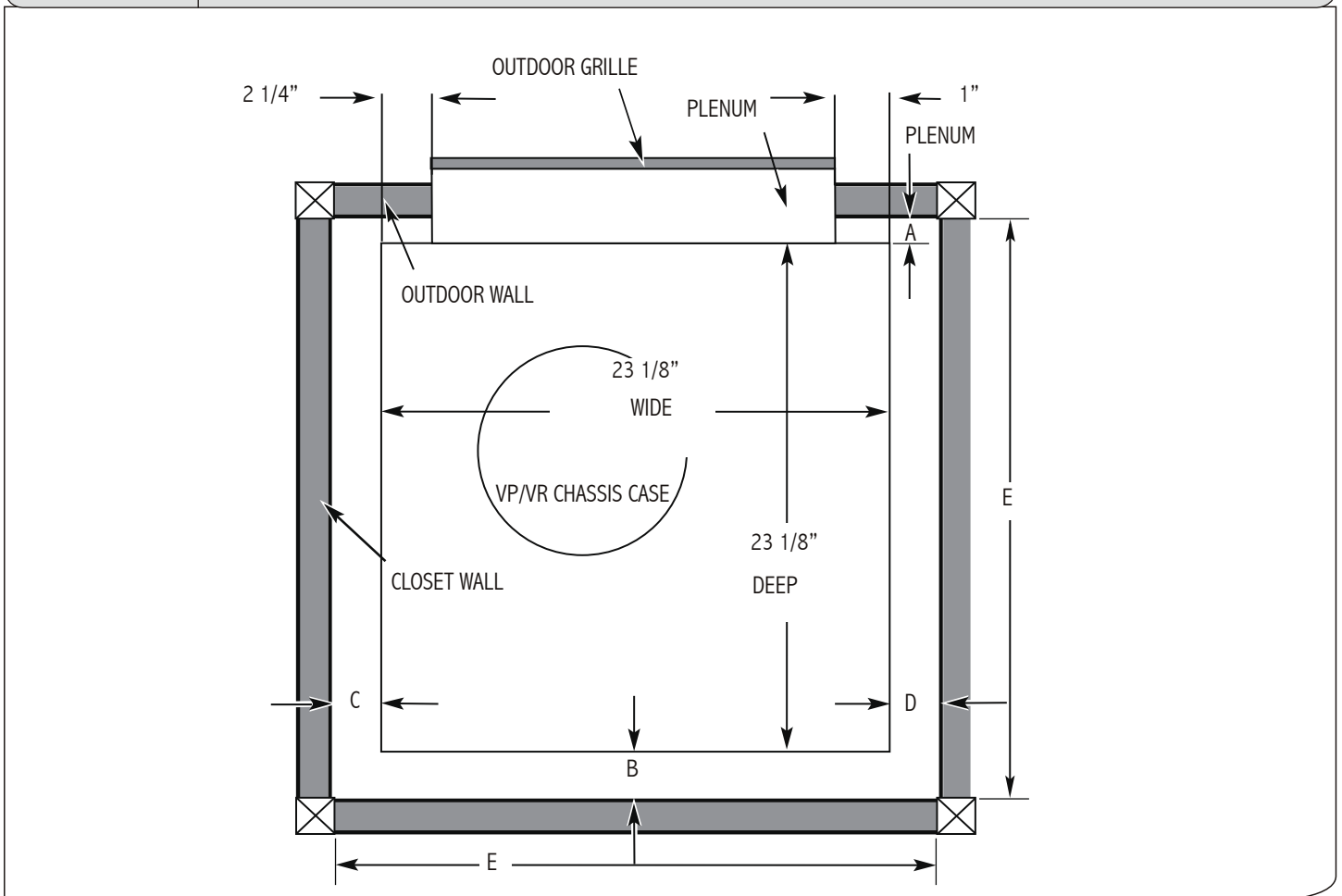
NOTE: Be sure to connect reversing valve wiring to the **B** (blue wire) connection of the thermostat for heat pump applications.

# DIMENSIONAL DRAWINGS

Units must be installed in accordance with all applicable codes. Ensure that there is adequate clearance for servicing and proper operation. A minimum clearance of 18 inches in front of the air return is required. Provide additional space for the service technician to work on the unit. Ensure that drapes, beds, bedspreads, furniture, etc., DO NOT block either the return or discharge air openings.

Your airflow should be balanced based on many factors, such as available ESP, room CFM, and ductwork. Consult an HVAC engineer for proper applications. Higher CFMs tend to increase sensible capacity, enhance room circulation and increase duct noise, while lower CFMs tend to increase latent capacity and reduce noise.

Figure 1 Dimensional Drawings (Unit Top Down View)



## Important Notes

'A' dimension determined by wall thickness and plenum size selected

'B' dimension minimum 4" for front installation,

'B' dimension minimum 5" for side installation (7" recommended)

'C' and 'D' dimensions minimum 3" for front installation

'C' and 'D' dimensions minimum 3" for side installation

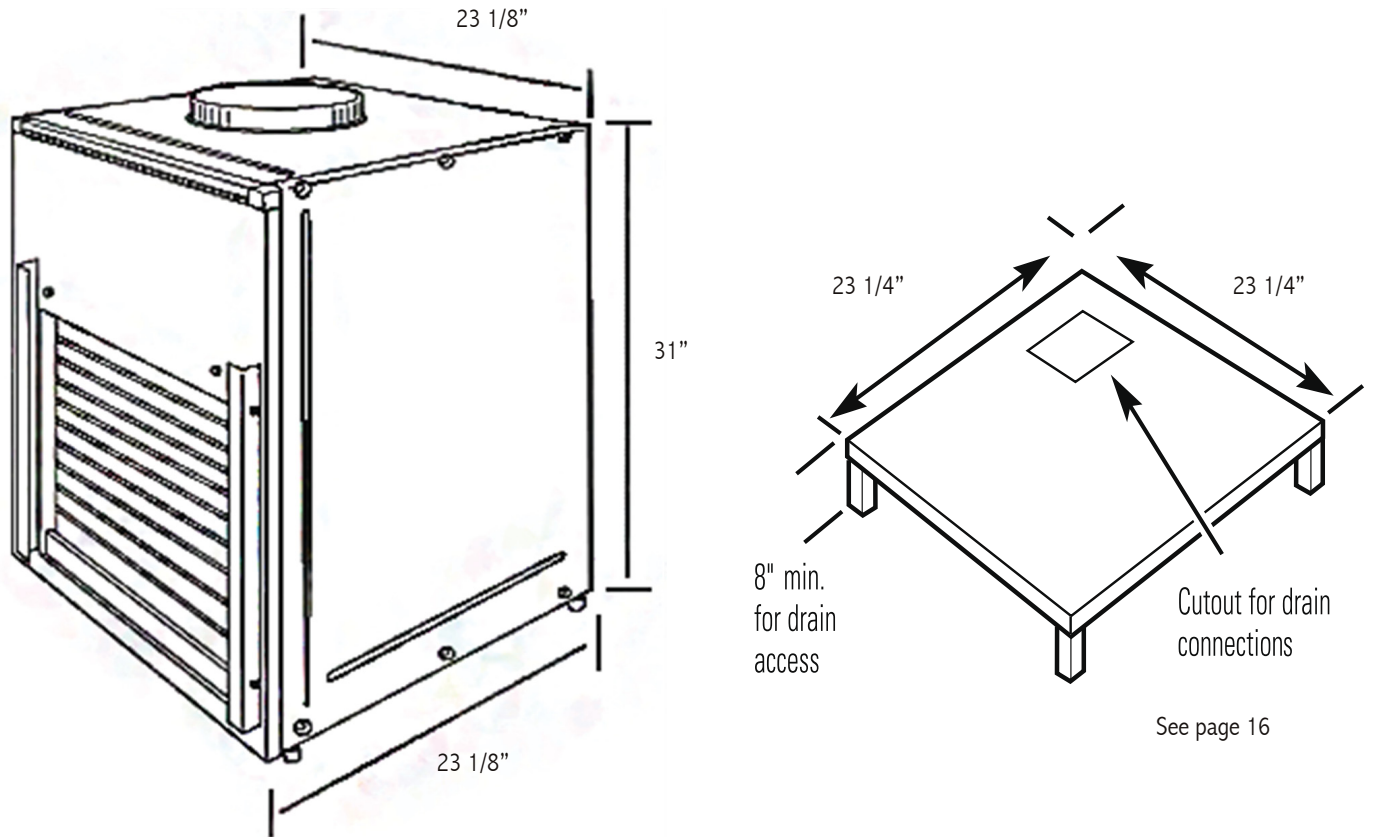
'E' dimension minimum for 28" door - 33"

'E' dimension minimum for Islandaire Access Panel - 30"

# DIMENSIONAL DRAWINGS (CONT.)

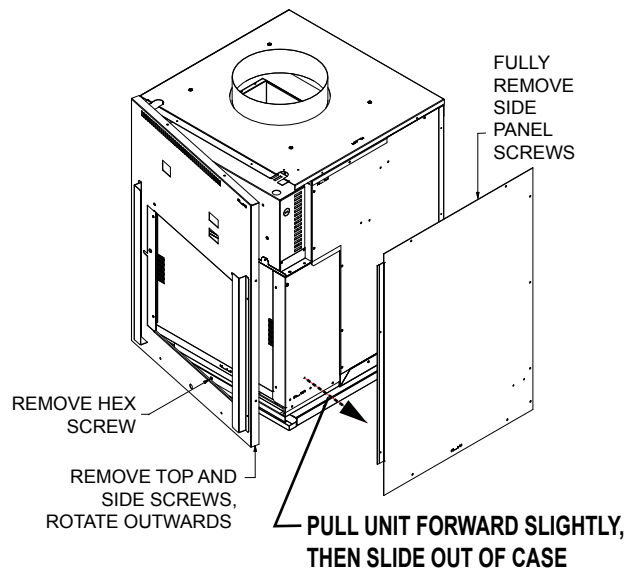
Figure 1-A

Dimensional Drawings (Unit and Platform)



See page 16

## SIDE-MOUNTED CHASSIS REMOVAL:



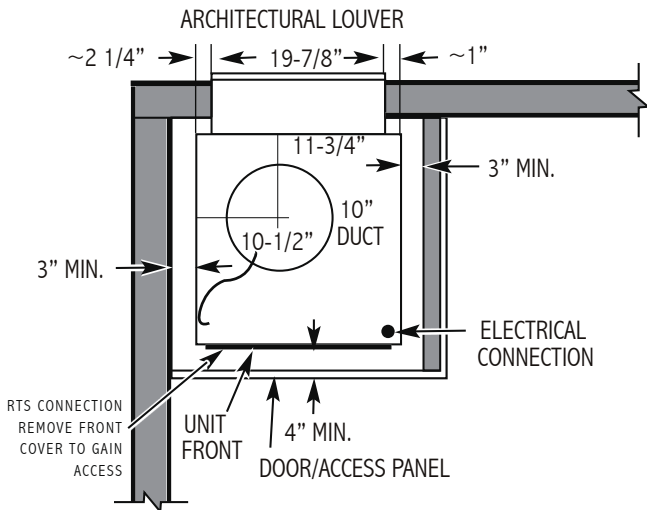
# DIMENSIONAL DRAWINGS (CONT.)

Figure 1-C

Dimensional Drawings (Chassis)

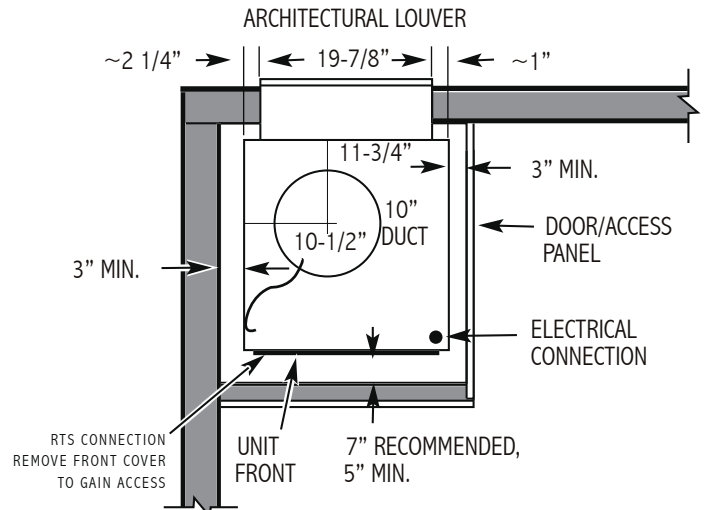
## UNIT INSTALLED THROUGH FRONT OF CASE (RECOMMENDED)

### Top View

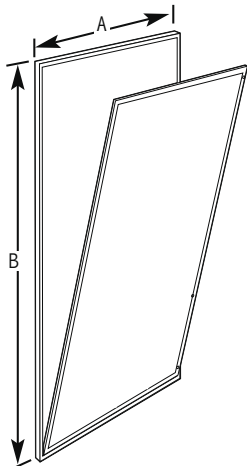


## UNIT INSTALLED THROUGH SIDE OF CASE

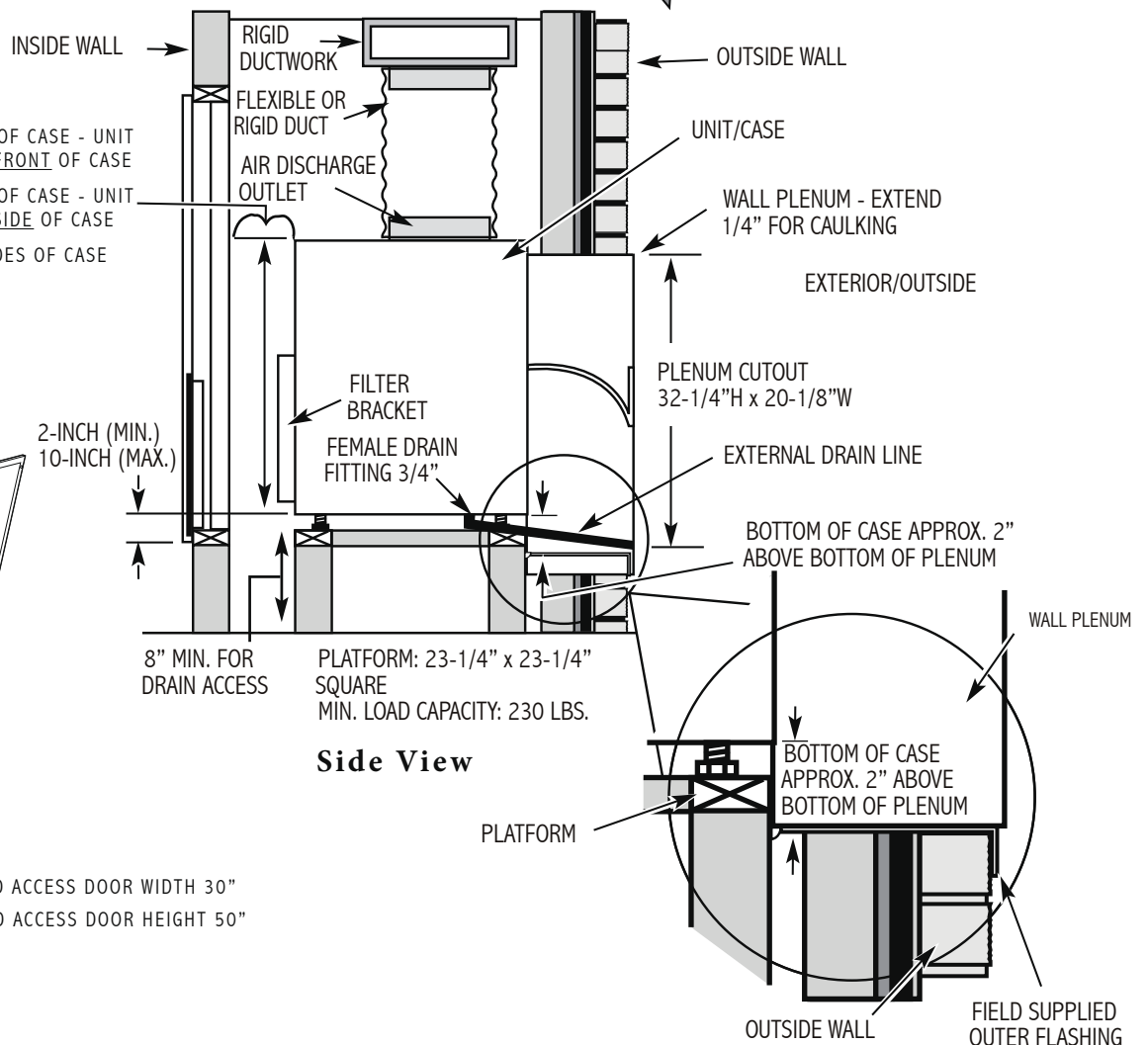
### Top View



- 4" MIN. FROM FRONT OF CASE - UNIT INSTALLED THROUGH FRONT OF CASE
- 5" MIN. FROM FRONT OF CASE - UNIT INSTALLED THROUGH SIDE OF CASE
- 3" MIN. FROM TWO SIDES OF CASE



A: MINIMUM RECOMMENDED ACCESS DOOR WIDTH 30"  
 B: MINIMUM RECOMMENDED ACCESS DOOR HEIGHT 50"





# INSTALLATION INSTRUCTIONS - WALL PLENUM

## WALL PLENUM

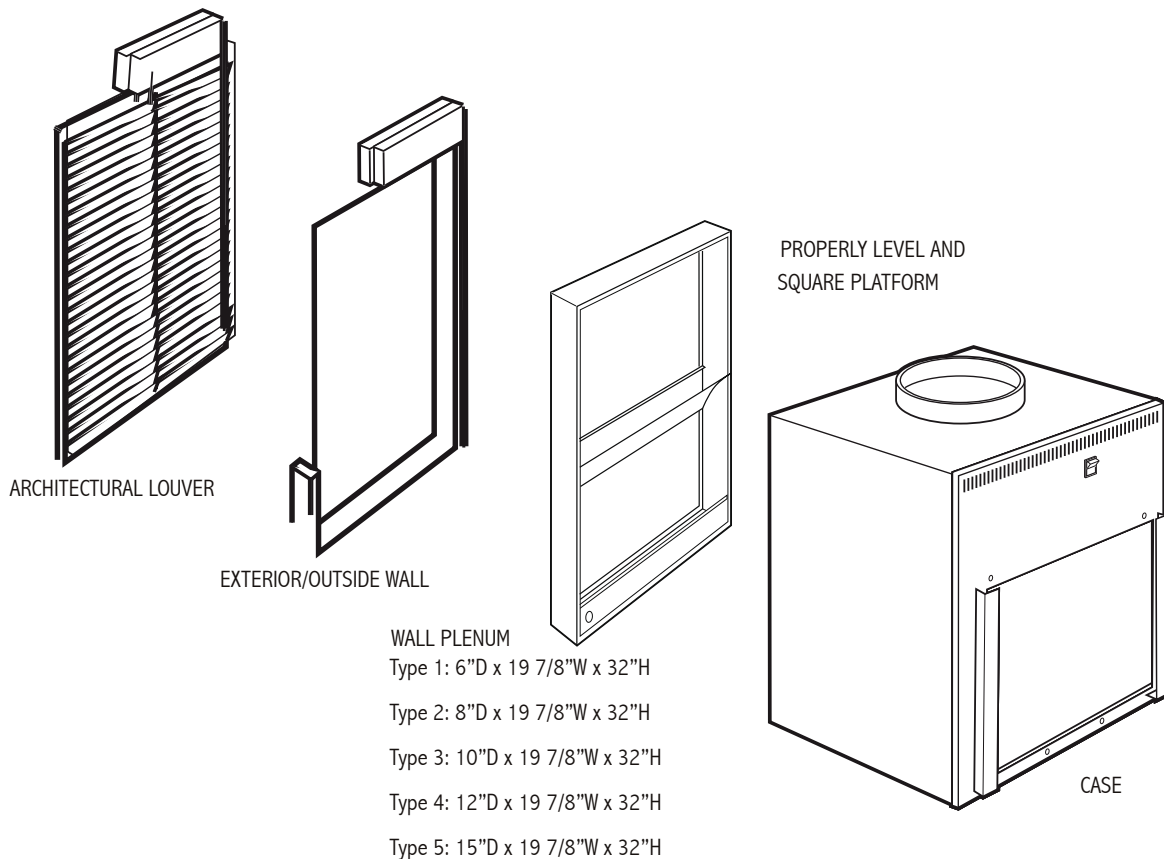
Since the VTAC unit itself does not install in the wall opening, the use of a wall plenum is necessary to contain and separate the outdoor air paths to prevent the discharge air from being drawn back into the unit. The plenum must be able to hold water in the bottom without leaking into the wall cavity. The installation of flashing, with a 45° drip-lip, is recommended below the plenum.

The plenum is not load bearing, so a proper header needs to be installed above the plenum just as over any window opening in the wall. If the building construction is brick, concrete block, or other non self-supporting material, a lintel must be installed over the plenum opening. The plenum is to be installed square and level in the opening and secured to the wall construction with screws or nails in the sides located a minimum of 2" from the bottom of the plenum. No nails or screws may be used in the bottom or top of the plenum to ensure against water entering the wall cavity. The plenum must be caulked (on all four sides) along the outdoor wall face and along the interior wall to prevent air infiltration and water intrusion.

The wall opening location for the plenum must extend 1" below the top of the Installation Platform. Since the platform must be a minimum of 8" off the floor, the cutout for the plenum must be a minimum of 7" plus the thickness of the platform base, off the interior finished floor.

Islandaire offers five plenums; the choice of the correct plenum is determined by the thickness of the building's exterior wall (see below). Each plenum is 19 7/8" wide by 32" high and requires a 20 1/8" wide by 32 1/4" high cutout in the wall.

Prepare the closet ductwork for later connection to the case. Plenum duct should be insulated to prevent condensation and to reduce air noise.



# INSTALLATION INSTRUCTIONS - EXTERIOR GRILLE

## STANDARD EXTERIOR (REAR) GRILLE

The standard exterior grille (louver) is mounted to the exterior flange of the plenum and held in place with four screws inserted from inside the enclosure closet. The grille is designed specifically for use with the VTAC unit and the use of any other grille must be approved by Islandaire Air Conditioning Applications Engineering.

1. Prepare the grille for installation by installing the five plastic fasteners supplied through the holes in the grille.
2. Guide the alignment pins, located on the lower right and lower left hand corners of the grille into their corresponding holes on the rear outside edge of the plenum.
3. If installing the grille from inside the room, use a plastic wire zip-tie or tie a short length of string or insulated wire around several louvers as a holding device in order to keep a firm grasp on the grille. Angle the grille through the opening at the rear of the plenum, then pull the grille back to the plenum and align the screw heads to the hole. Be sure to keep a firm grip on the grille to prevent it from dropping and/or causing possible injury and/or property damage.
4. Secure the grille to the plenum by installing screws into the plastic fasteners. Be careful not to damage fasteners by overtightening. Remove the holding device (plastic wire zip-tie, etc.) when installation is complete.

Figure 2 Standard Grille Fastener

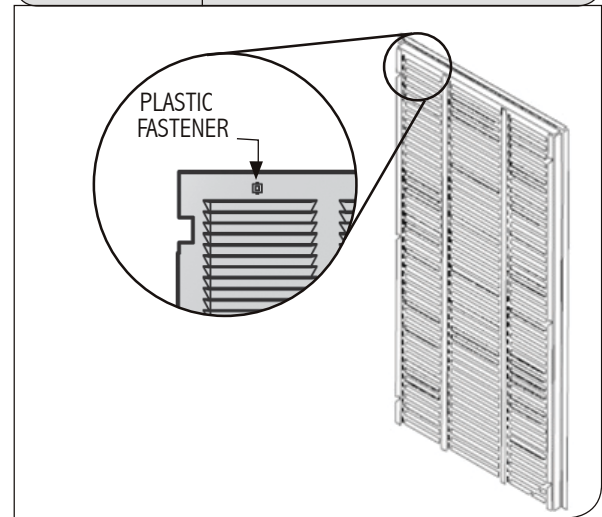


Figure 3 Standard Grille Installation

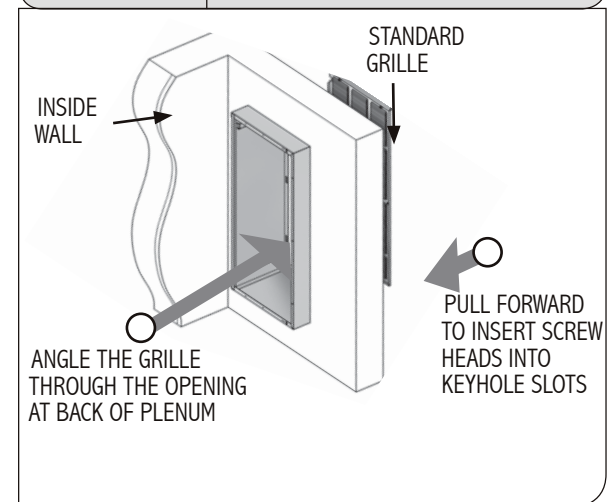
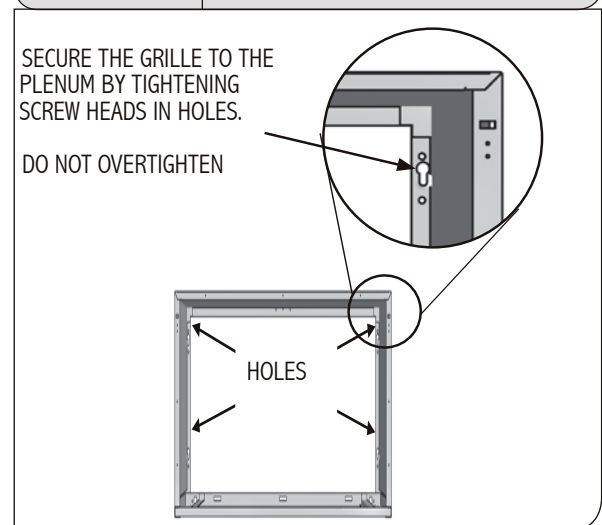


Figure 4 Standard Grille Installation



# INSTALLATION INSTRUCTIONS - EXTERIOR GRILLE

## ARCHITECTURAL EXTERIOR (REAR) GRILLE

The architectural rear grille directs condenser airflow and provides a protective barrier for the outdoor coil. Either the approved Standard or Architectural grille must be installed before installing the chassis.

1. Install the four threaded studs into the threaded openings on the inside face of the grille. Install a washer and one hex nut to the end of each stud.
2. Manipulate the grille out through the rear plenum opening. Be sure to keep a firm grip on the grille to prevent it from dropping and/or causing possible injury or property damage.
3. Attach the grille to the plenum by aligning and inserting the hex nut threaded onto the studs through the holes in the plenum.
4. Secure the grille to the plenum by tightening the hex nut and adding and tightening an additional hex nut.

Figure 5

Architectural Rear Grille Parts

Architectural Rear Grille, 4 Studs, 4 Washers, (8) Hex Nuts

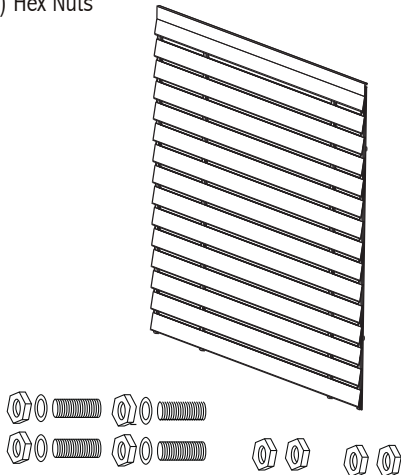
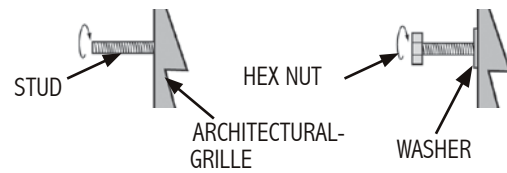


Figure 6

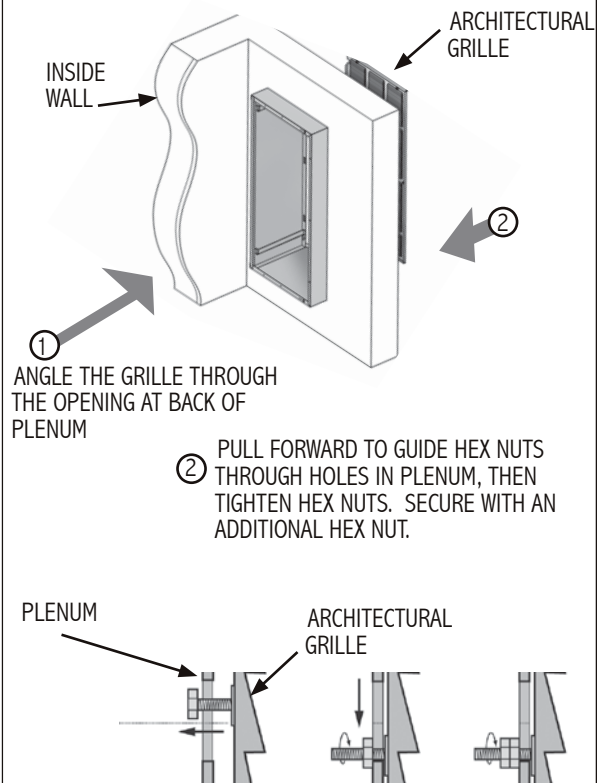
Threaded Stud Installation



INSTALL THE FOUR THREADED STUDS INTO THE THREADED OPENINGS ON THE INSIDE FACE OF THE GRILLE. INSTALL WASHERS AND HEX NUTS TO THE END OF EACH STUD.

Figure 7

Arch. Rear Grille Installation



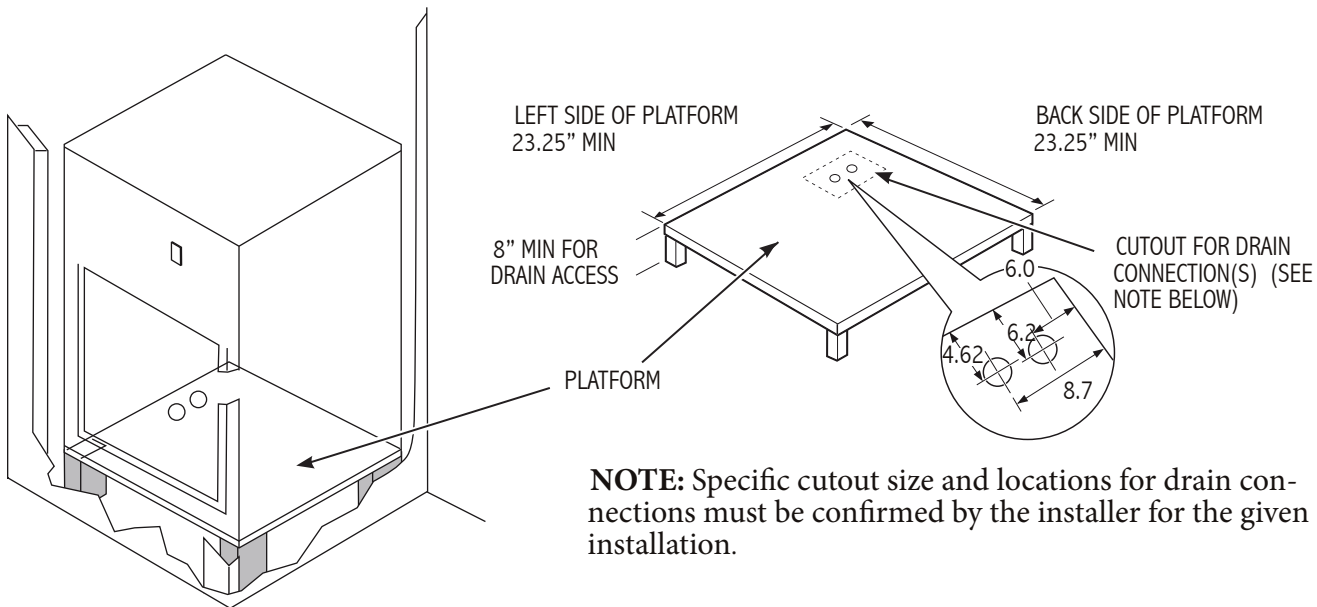
① ANGLE THE GRILLE THROUGH THE OPENING AT BACK OF PLENUM

② PULL FORWARD TO GUIDE HEX NUTS THROUGH HOLES IN PLENUM, THEN TIGHTEN HEX NUTS. SECURE WITH AN ADDITIONAL HEX NUT.

# INSTALLATION INSTRUCTIONS - BASE PLATFORM

## BASE PLATFORM CONSTRUCTION

The VTAC unit requires a field-supplied base platform (having a load-bearing capacity of 230 lbs. minimum). For warranty purposes, the base platform must be constructed to ensure the unit chassis can be removed through the access panel. Proceed as follows:



1. Construct a 23 1/4" min. x 23 1/4" min. square platform with legs to raise platform a minimum of 8" (12" recommended), see diagram above.
2. Make the drain hole cutout(s) as follows
  - Primary Drain - Centerline of drain is approximately 4.695" from left platform edge and 8.875" from back platform edge.
  - Secondary Drain - Centerline of drain is approximately 6.625" from left platform edge and 5.625" from back platform edge.
3. Place the platform in the utility closet large enough to provide the following clearances between it and the interior surface of the walls/door/panel:

NOTE: When determining the closet depth, consideration must be given to the fact that the plenum will protrude into the closet because the plenum will be thicker than the exterior wall.

  - If VTAC unit is to be installed through the front of case: 4" minimum clearance from the front of the platform to inside of the closet door, 3" minimum clearance from each side of the case.
  - If VTAC unit is to be installed through the side of case: 5" minimum clearance from the front of the case, 5" minimum clearance from each side.
4. The platform legs must be positioned so access to the unit drain connections are not blocked. Align the platform with the opening of the wall plenum and secure to the floor using appropriate brackets and screws.

# INSTALLATION INSTRUCTIONS - CASE & CHASSIS

## UNIT INCLUDING CASE AND CHASSIS

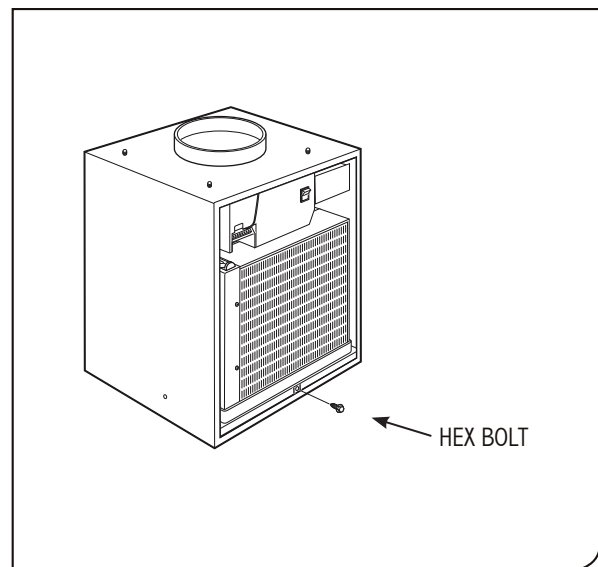
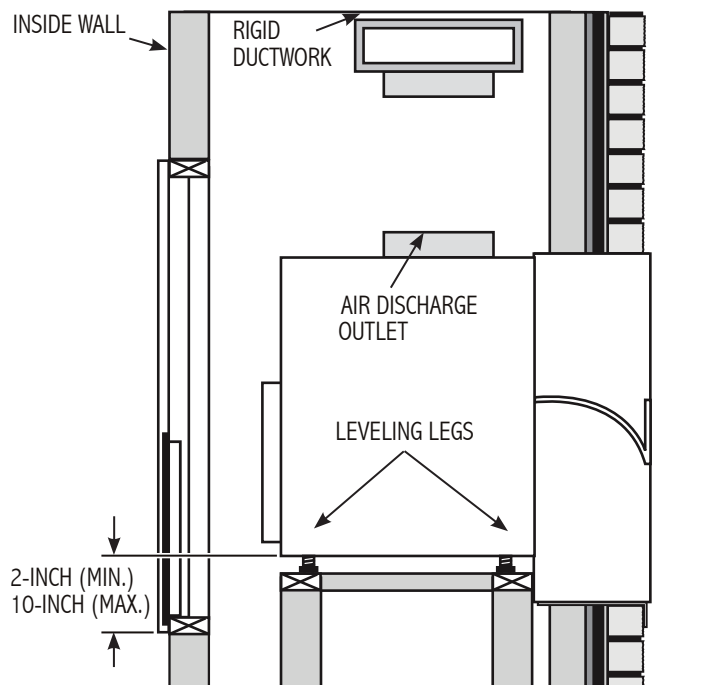
The VTAC unit is packaged with the case and the front panel in place (filter not included).

1. Remove the front case panel and pull the unit chassis out of the case. Remove the side panel if a side installation is to be made.
2. Place the empty case onto the base platform in the closet with the outdoor side facing the wall plenum and slide unit up to plenum.
3. Level the case side-to-side and front-to-back using the four leveling legs.
4. Using the holes in the bottom of the case as guides, drill holes in the mounting platform. Use four field-supplied bolts, washers and nuts to secure the case to the platform. Do not tighten the bolts to the point of distorting the case. Failure to properly secure the case to the platform may result in excessive unit vibration and increased noise level.
5. Align the case with the plenum opening and attach using six field-supplied sheet metal screws (stainless screws recommended).
6. Slide the unit chassis into the case, either through the front or side panel opening. Push the unit all of the way into the case until it stops.



NOTE: Either of the case sides may be removed to enable the unit to be slid into the case.

7. With the chassis in position in the case, replace the side panel (if removed).
8. Ground the unit to the case by installing the front case-to-unit hex bolt.



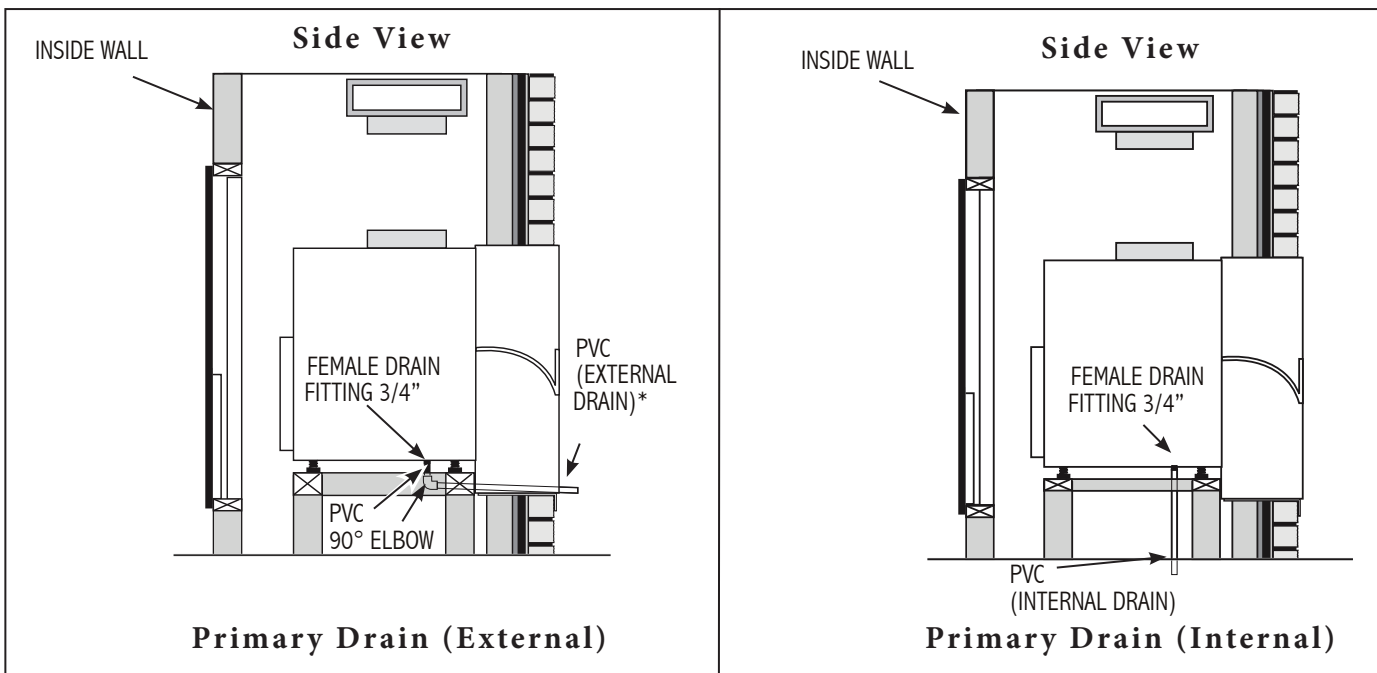
# INSTALLATION INSTRUCTIONS - DRAINS

## DRAIN CONNECTION(S)

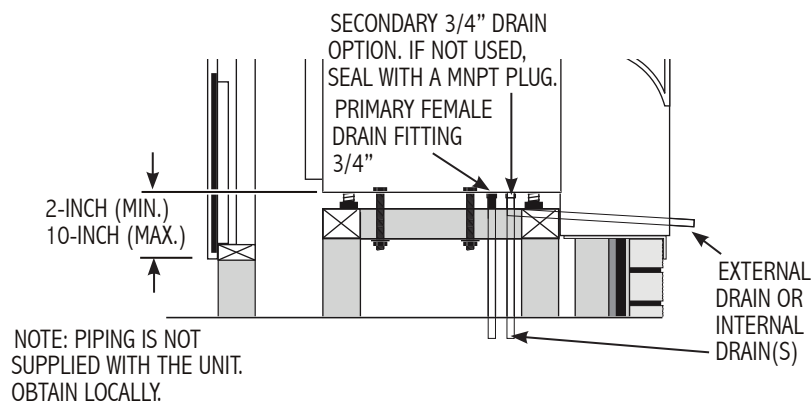
The VTAC unit is equipped with two drain fittings (primary and secondary drains). An external or an internal drain must be attached to the primary drain connector. The secondary drain is provided for connection when required by state and local codes. Refer to local codes for proper installation of the drains.

### External Drain:

Attach a 90° PVC elbow to the unit's female 3/4" NPT drain connector. Use the other end of the elbow to run a 3/4" schedule 40 PVC pipe through the knockout hole of the wall plenum to the outside. A notch must be cut in the rear grille (louver blade) to allow tube to pass through. Seal the gap between the wall plenum hole and PVC tube.



\* Ensure drain lines going out the plenum are sloped downward to allow water to drain out.

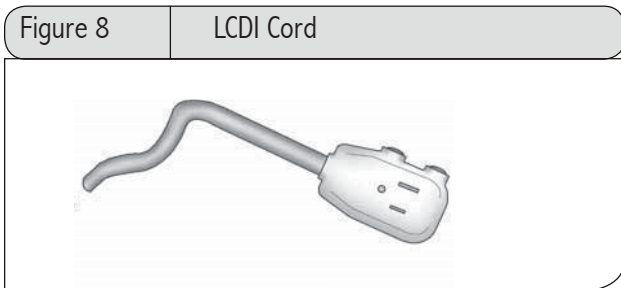


The secondary drain hole is shipped open (unplugged) and must either be plugged if not used or connected to an independent drain system. If a secondary drain system is used, attach a 90° schedule 40 PVC elbow to the secondary drain hole directed toward the secondary drain system. If a secondary drain system is NOT used, install a 3/4" schedule 40 PVC plug to cap the hole. If the secondary drain is not used, seal its drain port with a 3/4" MNPT plug.

# INSTALLATION INSTRUCTIONS (POWER CORD, DUCT)

## UNIT POWER CONNECTION

- 230/208V units are equipped with LCDI or AFCI power cords and can open the electrical circuit to the unit. In the event the unit does not operate, check the reset button located on or near the head of the power cord as part of the normal troubleshooting procedure. Make power connections to the unit (refer to WIRING DIAGRAMS section).



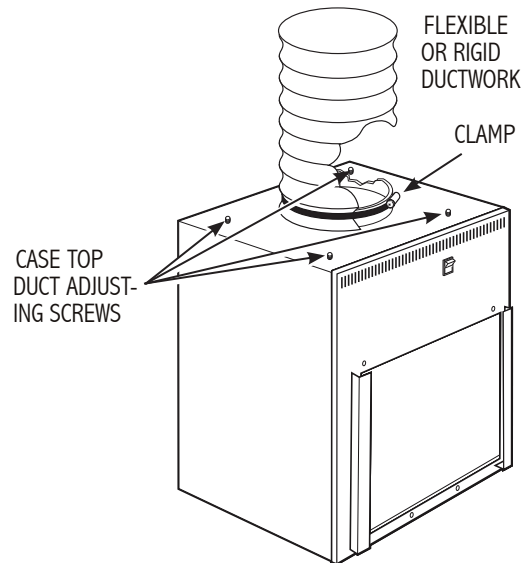
- Once the unit is properly wired, measure the unit supply voltage. Voltage must fall within the voltage utilization range as shown in the table below.

## VOLTAGE MEASUREMENTS

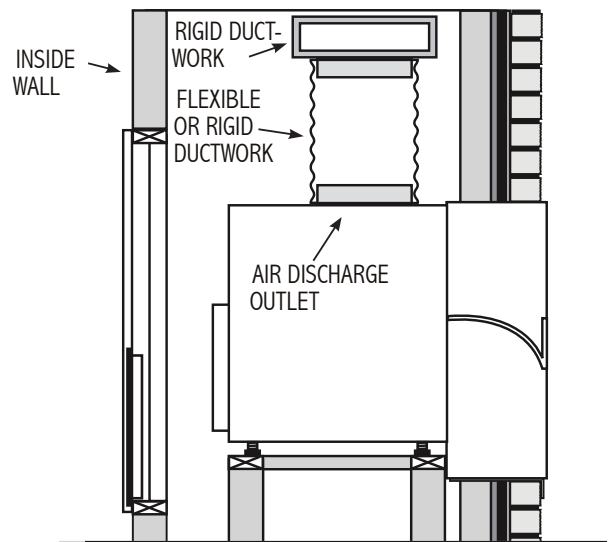
OPERATING VOLTAGE		
UNIT VOLTAGE RATING	VOLTAGE UTILIZATION RANGE	
	MINIMUM	MAXIMUM
230/208	197	253
265	238	292

## CONNECT THE TOP DUCT

- Seal the case top duct to the VTAC unit chassis by turning the four case top duct adjusting screws until they are tight.



- A 10" diameter flange on the air discharge outlet is used to connect to field supplied, insulated, flexible or rigid transition duct with an adjustable ring clamp. Flexible duct may be used for transitions only, rigid duct must be used for 90° bends and tees. Do not use flexible duct for unsupported runs of five feet or more. Extra flexible duct slack can greatly increase static pressure.



# INSTALLATION INSTRUCTIONS - THERMOSTAT

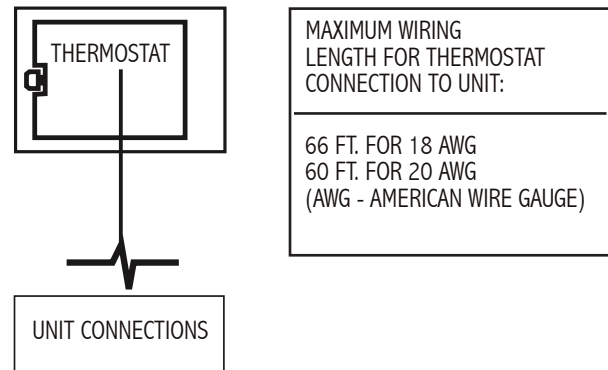
## REMOTE WALL MOUNTED THERMOSTAT

The VTAC unit can be controlled by any remote electronic thermostat that can interface with RCB-WYG terminals. In terms of outputs, there are two types of thermostats: mechanical and solid-state. Refer to the manual provided with the thermostat for proper connections and settings.

A Remote Thermostat Terminal Block is available, and is located on top of the control box, behind the front panel of the case. It provides a connection for a remote thermostat and energy management inputs.

**NOTE:** Ensure power to the unit is shut off prior to making any electrical connections.

1. Connect the thermostat wires to the unit. You can wire any type of 24 VAC thermostat straight into the Remote Thermostat Terminal Block.



## WIRELESS WALL MOUNTED THERMOSTAT

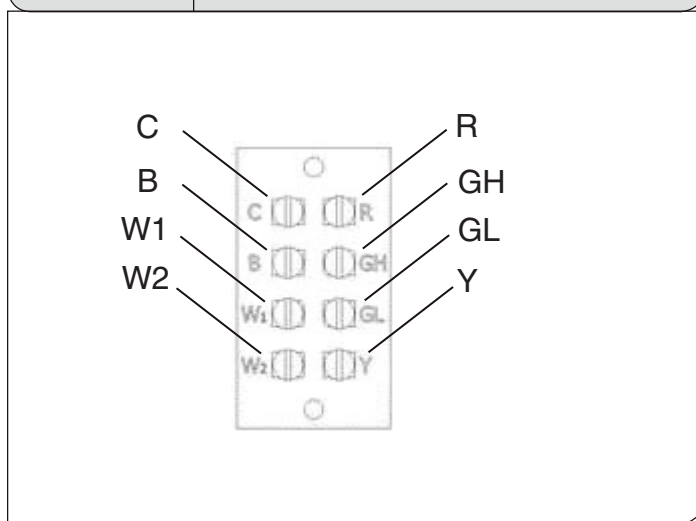
Wireless wall thermostats are designed to provide precise thermostat control without the installation labor and expense of wiring.

- Powered by AA batteries
- Mounts in any suitable location that will provide an accurate room temperature reading.
- Large LCD display provides the user with current room temperature, set point temperature, time, program interval, and other system status information.

### Remote Control Node

Used with a wireless wall thermostat, the RCN communicates with the thermostat using unlicensed 900 MHz, radio frequency range.

Figure 9 Thermostat Terminal Block





# INSTALLATION INSTRUCTIONS - THERMOSTAT (CONT.)

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## REMOTE THERMOSTAT INTERFACE

During a call, the remote thermostat will pass R back to the controller on a respective terminal. See below for descriptions of each terminal.

### **Terminal R (Red)**

Low voltage terminal to supply voltage to an external wall-mounted thermostat. This terminal is capable of supplying 100 mA at 18-30 VAC RMS over the entire input voltage range specified.

### **Terminal GH (Green)**

When this low voltage terminal is connected to the R terminal and the unit is in remote mode, the blower/fan will be requested for operation on high speed.

### **Terminal B (Blue)**

When this low voltage terminal is connected to the R terminal and the unit is in the remote mode, the reversing valve is energized. Hydronic and electric heat shall be attempted as backups if the B terminal is asserted and the compressor is locked out or disabled. This is subject to the configured heat modes available.

### **Terminal Y (Yellow)**

When this low voltage terminal is connected to the R terminal, and the unit is in remote mode, the compressor will be switched on (the GL or GH terminal must also be connected to the R terminal).

### **Terminal W1 (White)**

When this low voltage terminal is connected to the R terminal, and the unit is in the remote mode, first hydronic heat is attempted, and electric heat is switched on as backup (the GL and GH terminal must also be connected to the R terminal). This is subject to the configured heat modes available.

### **Terminal GL (Orange)**

When this low voltage terminal is connected to the R terminal, and the unit is in remote mode, the blower/fan will be requested for operation on low speed.

### **Terminal C(Black)**

Low voltage terminal, 24 VAC common, to provide opposite polarity voltage to wall thermostat.

# INSTALLATION INSTRUCTIONS - INTERIOR GRILLE

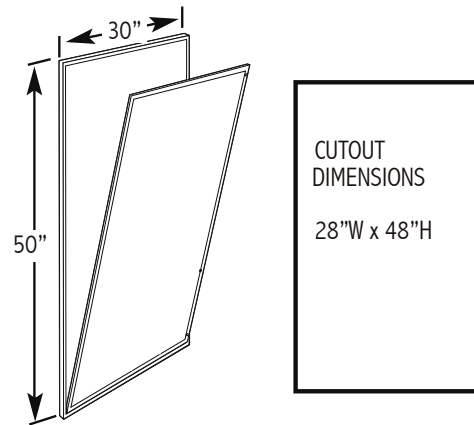
## INTERIOR RETURN AIR GRILLE

The return air from the room to the VTAC unit enters the enclosure closet using a return air grille (see figure 10). A wall-mounted, front access panel (item 1) in combination with a wall-mounted, return air grille (item 2) is required.

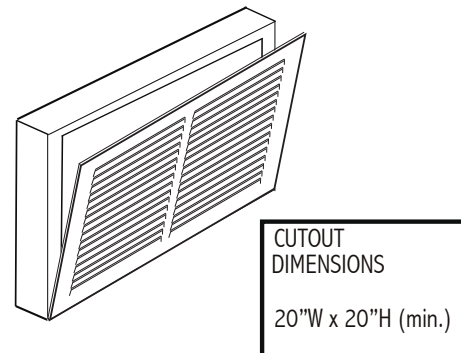
1. The front access panel requires a 28" wide by 48" high cutout in the door.
2. The return air grille (item 2) is designed to be installed in a 20" wide by 20" high cutout in the wall. An air filter can fit into the bracket in the rear of the return air grille or in the bracket located on the front panel of the VTAC unit.
3. A sound-reduction louvered panel that mounts in the door is also available. The sound-reduction panel requires a 28" wide by 48" high cutout in the door. The air filter would be installed in the filter bracket located on the front panel of the VTAC unit.

Figure 10 Interior Grille Installation

ITEM 1: The front access panel - must be lined up with the cutout on the VTAC unit case



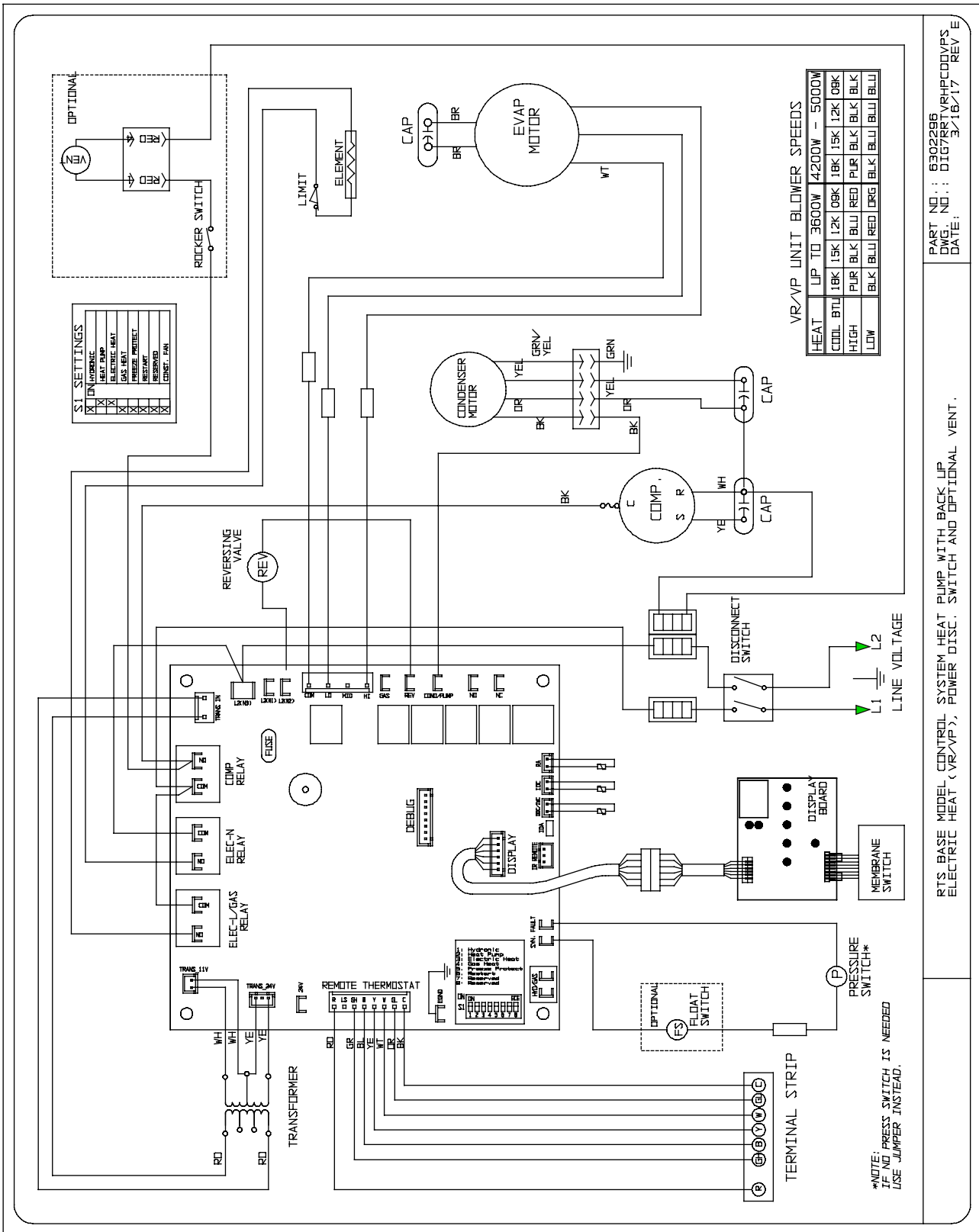
ITEM 2: Return Air Grille



# WIRING DIAGRAMS

Figure 11

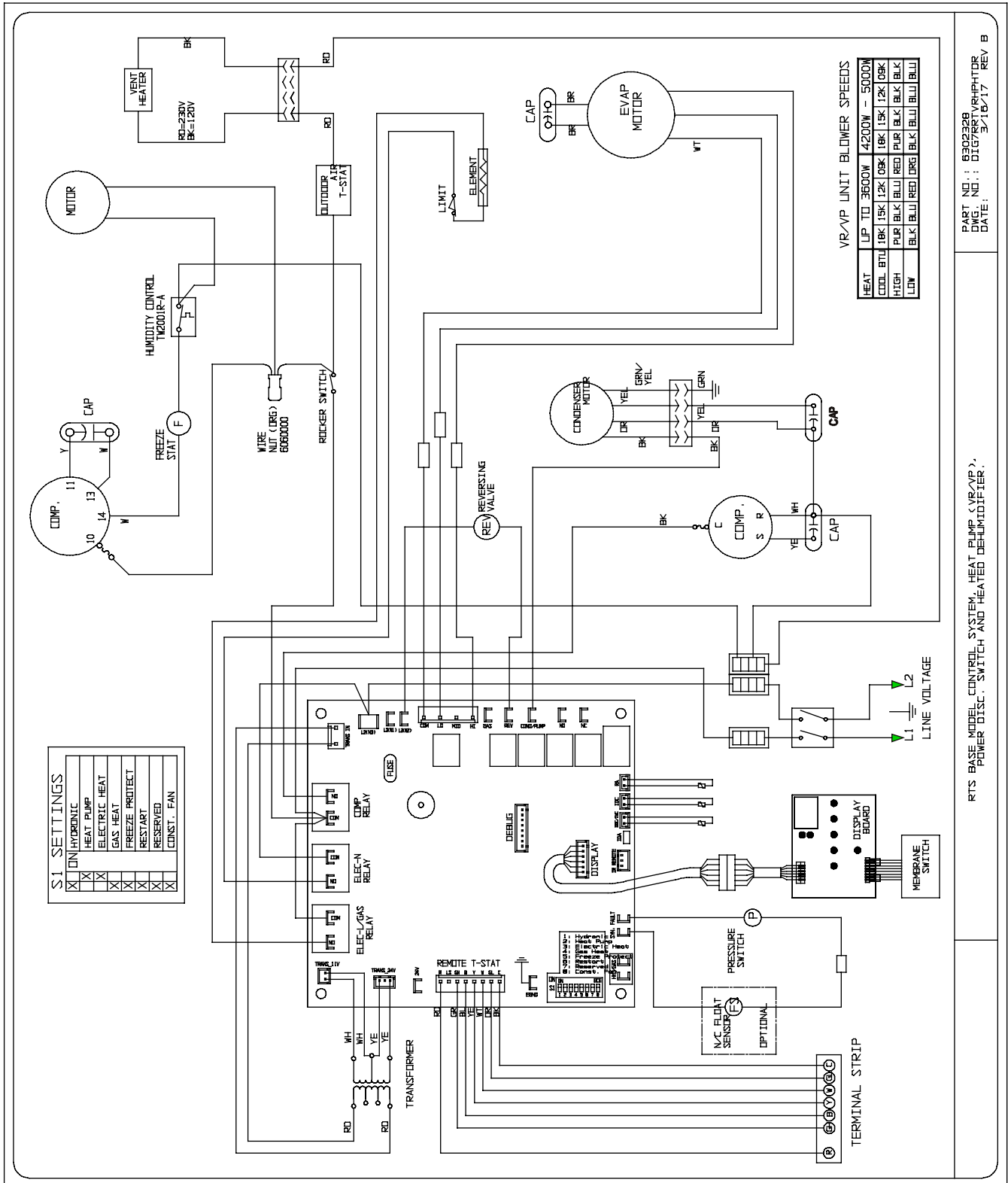
Wiring Diagram - EZ VP Series VTAC Unit



# WIRING DIAGRAMS (CONT.)

Figure 12

Wiring Diagram - EZ VR Series VTAC Unit



PART NO.: 6302328  
 DWG. NO.: 016785T/VR/VP/HTDR  
 DATE: 3/16/17 REV B

RTS BASE MODEL CONTROL SYSTEM, HEAT PUMP (VR/VP),  
 POWER DISC. SWITCH AND HEATED DEHUMIDIFIER.

\*NOTE: ABOVE DIAGRAM IS TYPICAL. FOR UNIT SPECIFIC WIRING, REFER TO DIAGRAM PROVIDED WITH UNIT (ENCLOSED IN VINYL POUCH)

# SYSTEM CONTROLS AND MANAGEMENT

## USER INTERFACES

The Islandaire EZVP VTAC can be operated using several different control systems. Described below are some of the important control features and a brief description of their functions.

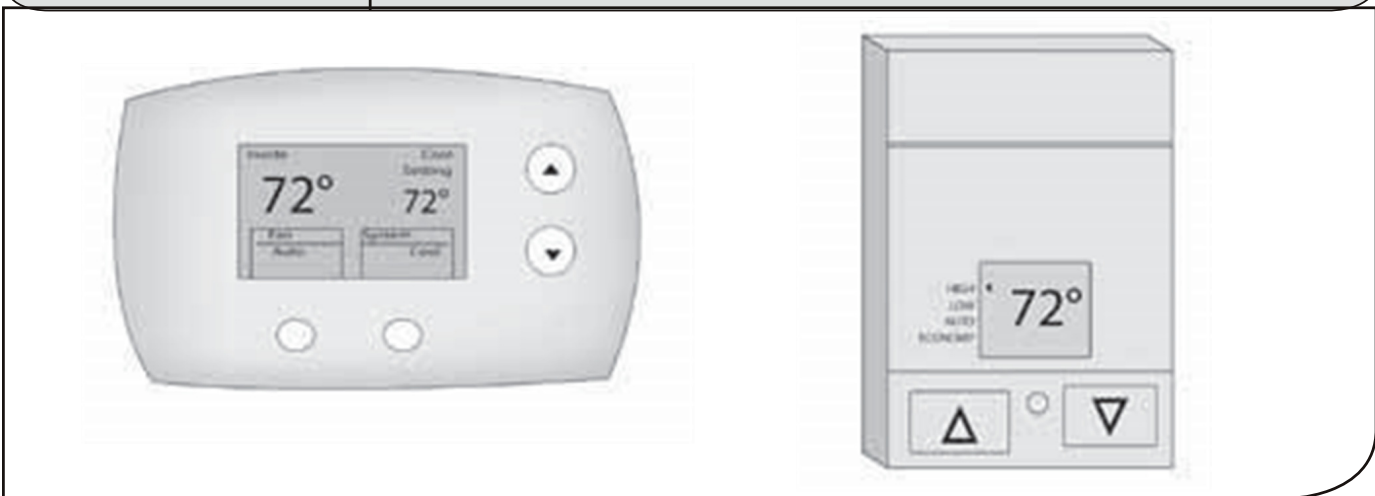
## WALL THERMOSTATS

Terminal connections on the main control board allow easy conversion from an on-board control panel to a wall-mounted thermostat control (wired or wireless).

*See page 24 & 25 for full details*

Figure 13

Wall Thermostats



## FRONT DESK CONTROL

Low voltage terminals on the main control board allow easy connection to a front desk energy management system. Front desk controls allow the unit to be operated from a remote location. Front desk controls can reduce energy consumption by allowing front desk personnel to turn the unit off when a room is vacant.

# SYSTEM CONTROLS AND MANAGEMENT (CONT.)

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## CONTROLS LOGIC

The Islandaire VTAC unit is equipped with an electronic system that runs smart control logic with associated sensors. Built-in safety features protect the unit from the damaging effects of freezing temperatures and power interruptions. Energy management functionality allows the unit performance to be customized to control its power consumption. Displaying fault codes help personnel quickly correct any problems if they occur.

Listed below are the built-in automatic features and a brief description of their functions. See *Performance Specifications* section starting on page 33 for full details of all functions.

## ROOM FREEZE PREVENTION

The indoor freeze protection monitoring system prevents unoccupied rooms from reaching freezing levels that can damage plumbing and fixtures. This feature is automatic regardless of mode and does not require any additional settings. This feature can be turned on or off by adjusting DIP switch settings on the main control board.

## HIGH TEMPERATURE COMPRESSOR PROTECTION

The life of the compressor is extended through built-in temperature protection. The system will initiate a compressor lockout if the compressor temperature exceeds 154 °F or if the outdoor air temperature falls below 35 °F.

## LOW TEMPERATURE COMPRESSOR PROTECTION

An indoor frost sensor will disable the operation of the compressor if freezing conditions exist. This protects the compressor from damage due to airflow reduction or low outdoor air temperature. When the coil temperature rises to a safe temperature the compressor resumes normal operation.

## DIAGNOSTIC SOFTWARE

The smart logic control performs self-diagnostic tests that inform service personnel about possible problems. Error codes are continuously displayed during troubleshooting and maintenance until the problem has been resolved.

## CUSTOM OPERATION AND CONTINUAL ROOM TEMPERATURE MONITORING

The smart logic control utilizes a built-in sensor for measuring room temperature. When a pre-determined (user-defined) set point is reached, smart logic controls automatically adjusts the unit operation to maintain the room temperature.

# SYSTEM CONTROLS AND MANAGEMENT (CONT.)

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## Auto Restart Feature

To prevent multiple units from powering up simultaneously after a power outage, there will be a random 5 to 15 second delay before the unit turns on after power has been restored.

## Memory Recall Feature

The smart logic control utilizes “non-volatile” memory; computer memory that can retain stored information when not powered. This allows all control settings to be saved and recalled after a power failure or if power is disconnected while servicing the unit.

## Compressor Short Cycle Protection

Built-in 3 minute timing delay: If cycle is interrupted, the compressor will not restart for 3 minutes. On all initial power ups there is a one-time, 3-minute time delay before the unit will function.

## Freeze Protection Feature

If the temperature in a vacant room falls below 50°F the freeze prevention thermostat automatically starts the heating cycle to prevent freezing conditions. All other operations will be disabled until the temperature rises above 58°F. When the temperature of the freeze prevention thermostat rises above 58°F, the system will resume normal operation.

## Heater Safety Feature

When the heater is powered off, fan will automatically stay on and run for 60 seconds to ensure the removal of residual heat.

## OPERATING GUIDELINES

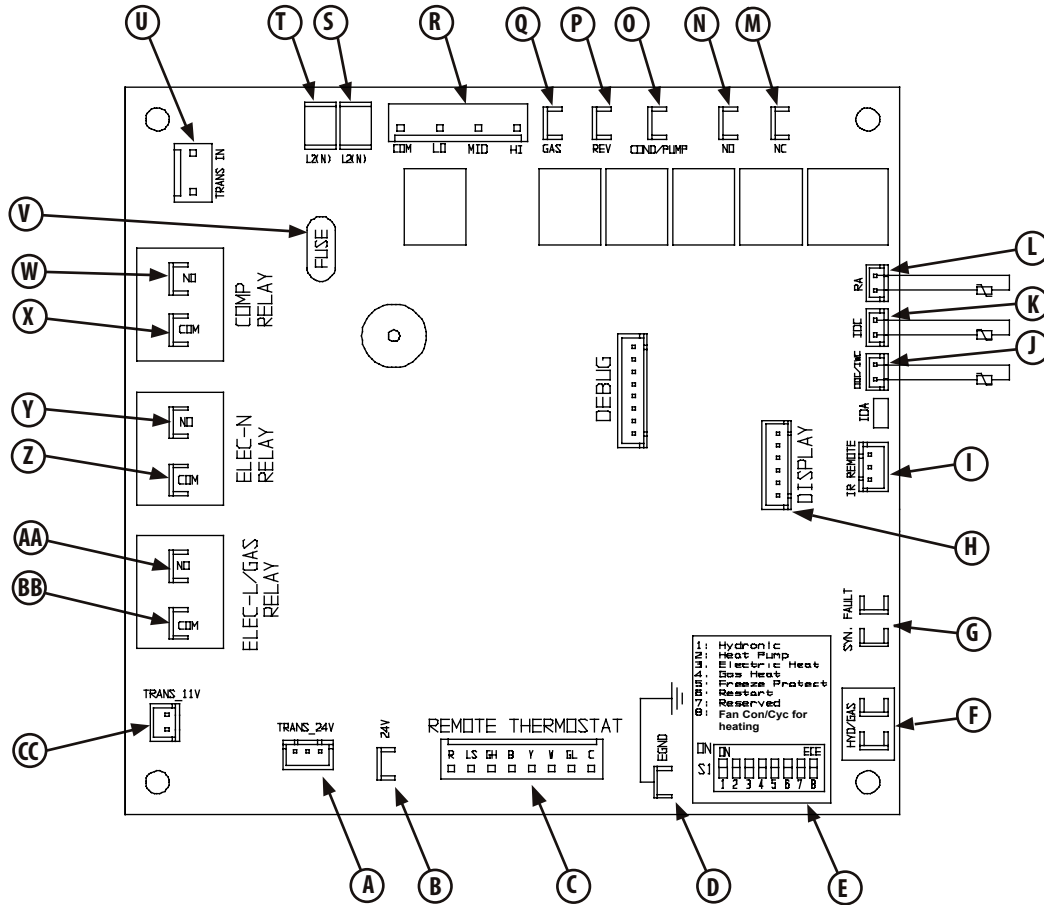
- Do not block airflow. Efficient operation of the unit depends on free circulation of air. Paper, leaves, and other debris can reduce efficiency and cause serious damage to the compressor.
- Ensure that objects such as drapes, furniture, or plants are not blocking the supply and return airflow.
- Do NOT operate unit with front panel removed or without filter, as this will void any warranties.
- Keep doors and windows closed. Leaving them open will increase the workload on the unit and will result in higher operating cost and excessive condensate.

Do NOT operate the unit while the building is still under construction or restoration. Construction dust can clog the filter and cause permanent damage to other components.

# MAIN CONTROL BOARD

Figure 13

Main Control Board

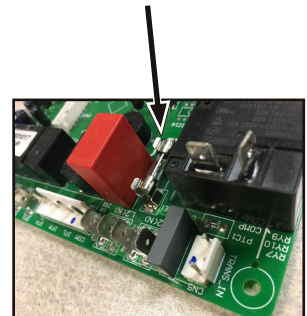


## KEY

- |                                     |                                   |                       |
|-------------------------------------|-----------------------------------|-----------------------|
| (A) TRANS 24V                       | (J) ODC/IWC - OUTDOOR COIL SENSOR | (S) L2(N)             |
| (B) 24 VAC - ACCESSORY              | (K) IDC - INDOOR COIL SENSOR      | (T) L2(N)             |
| (C) REMOTE THERMOSTAT               | (L) RA - RETURN AIR SENSOR        | (U) TRANS IN          |
| (D) EGND - ACCESSORY                | (M) N.C. - NORMALLY CLOSED        | (V) FUSE              |
| (E) DIP SWITCH - HEAT CONFIGURATION | (N) N.O. - NORMALLY OPEN          | (W) N.O. - COMPRESSOR |
| (F) HYD/GAS - FAN SWITCH            | (O) COND - CONDENSER MOTOR        | (X) COM - COMPRESSOR  |
| (G) SYN FAULT                       | (P) REV - REVERSING VALVE         | (Y) N.O. - ELEC_N     |
| (H) DISPLAY                         | (Q) GAS - GAS VALVE               | (Z) COM - ELEC_N      |
| (I) IR REMOTE                       | (R) FAN - EVAPORATOR MOTOR        | (AA) N.O. - ELEC_L    |
|                                     | HI                                | (BB) COM - ELEC_L     |
|                                     | LO                                | (CC) TRANS 11V        |
|                                     | COM                               |                       |

## Fuse

An easily replaceable 8.0 Amp 250V fuse (V) is conveniently located on the control board.





# PERFORMANCE SPECIFICATIONS

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## VERTICAL PACKAGED TERMINAL COOLING UNIT WITH HEAT PUMP OR ELECTRIC HEATING

### PART I: SPECIFICATIONS

Capacities: 9000, 12000, 15000, and 18000 BTUh

### PART II: GENERAL

#### 1.01 SYSTEM DESCRIPTION

Single piece, thru-the-wall, electrically-controlled unit using hermetic rotary compressor for cooling and heat pump or electric resistance heat.

##### A. Wall Case:

Shall be entirely constructed of galvanized, heavy gauge, steel. Wall cases shall be attached to the wall plenum as shown on plans and shall have factory provisions for use of appropriate field supplied fastening devices to secure the case to it. In no event shall fasteners be installed through the basepan in the bottom of the wall case. Wall case must have dimensions of 23 1/8 in. width by 31 in. height by 23 1/8 in. depth.

##### B. Outdoor Louvered Grille:

Shall be (stamped)(architectural) anodized aluminum as show on plans. Louver shall be (finished natural)(painted) as shown on the schedule. Louvers shall be easily installed from the inside of the building after the cabinet/wall case has been installed. Special field fabricated louvers must be approved by the VTAC manufacturer as to free area and air circulation requirements. The outdoor grille shall resist corrosion, breakage and match the color specified on drawing schedule and specifications.

#### 1.02 QUALITY ASSURANCE

System shall be tested and certified by ETL. Chassis capacity and efficiency performance shall be certified in accordance with AHRI standard 390. Chassis shall meet ASHRAE Standard 90.1 for minimum energy efficiency.

#### 1.03 DELIVERY, STORAGE AND HANDLING

- A. The packaging of the chassis shall be sufficient to protect the chassis from damage during shipment via an enclosed truck.
- B. Chassis, wall cases/plenums and grilles shall be shipped in separate cartons. Universal handling instructions shall be defined and visible on the cartons from the front, back and sides.
- C. Unit shall be stored and handled per manufacturer's recommendations.

# PERFORMANCE SPECIFICATIONS (CONT.)

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## 2.01 EQUIPMENT

### A. General

Factory-assembled, single-piece heating and/or cooling unit. Contained within the unit enclosure shall be compressor, coils, fans and fan motor, heating means, controls, all wiring and piping, and a full refrigerant charge (R-410A).

### B. Chassis

The chassis shall be a factory-assembled, single piece heating and/or cooling unit, that is simple to install and operate. Just slide the chassis into a wall case and apply power.

#### 1. Operating Characteristics

Chassis shall be capable of starting and running at 115 °F ambient outdoor temperature per maximum load criteria of AHRI Standard 390.

#### 2. Electrical

Chassis shall be equipped with a power cord or hard wiring ready. The chassis current draw shall be specified on the chassis nameplate and match electrical requirements specified on the Contract drawing schedule and specifications. The power cord plug configuration shall conform to NEMA standards and the rating shall support the current draw of the electric resistance heater.

### C. Airflow System

The airflow system shall consist of one permanent split-capacitor, direct-drive permanently lubricated, two-speed fan motor for the indoor (EVAP.) and outdoor (COND.) fans. The outdoor fan shall be dynamically balanced, corrosion-resistant polymer, multi-blade axial flow design, with integrated slinger ring. The indoor fan shall be dynamically balanced, sheet metal, forward-curved blower wheel, to assure uniform air distribution. The fan motor shall be an enclosed design to reduce the effects of moisture and corrosion.

### D. Compressor and Refrigerant

The rotary-type compressor shall be fully hermetic with internal and external vibration isolation. The refrigeration system will be sealed and contain a full refrigerant charge (R-410A).

### E. Coils

Condenser and evaporator coils to be constructed of high-efficiency, aluminum fins and seamless axial-grooved copper tubing, necessary to achieve EER and COP rating, as specified on the chassis name plate.

### F. Factory-Installed Electric Heater

The factory-installed, open-coil type, electric heater is standard in heat/cool and heat pump chassis. The electric heater shall contain both an automatic reset and a one-shot over temperature protection device.

The electric heating capacity shall be as identified on the Contract drawing schedule and in the specification.

### G. Front Panel (supplied with chassis)

Front panel shall be constructed of 18-gauge galvanized steel to resist breakage and corrosion. The air filter shall be easily accessible by from the front of the unit.

### H. Fresh Air Vent

The chassis shall have a manual open/close fresh air vent with a concealed electric switch control. The vent control shall allow a maximum of 72-75 CFM of fresh air to be drawn into the room when the indoor fan is operating and the door is open.

### I. Condensate Removal System

The chassis shall have a condensate removal system consisting of a condensate suction port, to draw and atomize condensate, and a slinger ring integrated in the outdoor fan, to disperse condensate onto the condenser coil to be evaporated during the cooling cycle.

Condensation accumulated during the reverse cycle heating must NOT be evaporated against the indoor coil so as to prevent contamination of the indoor air with pollutants and odors. Condensation must be disposed of using a (external) (internal) drain system as shown on plans.

# PERFORMANCE SPECIFICATIONS (CONT.)

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## 3.01 CONTROLS

All standard models shall be equipped with electro-mechanical controls to simplify the serviceability of the unit.

### A. Standard Control

The chassis shall have a remote thermostat terminal block to enable interface with a modern remote wall thermostat.

### B. Temperature Limiting

All standard models shall have Temperature Limiting functionality built into the system controls. The temperature limiting function allows a room temperature setpoint range to be established, to avoid extreme temperature settings, to maximize energy savings.

### C. Emergency Heat

Emergency Heat Switch (Heat Pump models only), upon failure of the compressor, shall automatically disable the compressor in heating mode and allow the use of electric heat during heating cycles. The Emergency Heat Switch is active at all outdoor ambient temperatures.

### D. Thermostat

The chassis shall come from the factory ready for wall thermostat installation.

### E. Protection Circuits

Compressor shall have automatic reset, over temperature and over current protection. The fan motor shall have an inherent, automatic reset over temperature protection. The electric heater shall have two over temperature protectors.

## 4.01 HEAT PUMP OPERATION

Heat pump units shall have the selected room temperature maintained by cycling either in the heat pump mode or electric heat. A heat pump unit with electric heat is switched from the heat pump mode to electric heat when the unit is on and the outdoor coil temperature reaches 27 °F, or when the outdoor air temperature is 35 °F and an initial call for heat is triggered. At this time, back-up electric heat is the only source of heat, and will only attempt to go back to normal compressor operation after it has been satisfied.

A temperature-sensing device shall be used to monitor the outdoor coil temperature to limit frost buildup. Defrosting of the outdoor coil will be activated when outdoor coil temperature drops below 27 °F or outdoor air temperature drops to 35 °F or less.

For heat pump operation, a room thermostat with a B (heating changeover) terminal is required. This will mean that some “auto changeover” thermostats cannot be used, as many of them either do not have a B terminal, or energize the B terminal continuously when in the “auto” position.

Condensation accumulated during reverse cycle heating will NOT be evaporated against the indoor coil so as to prevent contamination of the indoor air with pollutants and odors. Condensation must be disposed of using an external or internal drain system as shown on plans.

The indoor (EVAP.) fan will stop if the indoor coil temperature falls below 78 °F. It will restart at its set speed when indoor coil temperature rises back to 80 °F.

# TYPICAL WARRANTY

## LIMITED ONE YEAR PARTS AND LABOR PLUS ADDITIONAL 2ND THROUGH 5TH YEAR SEALED SYSTEM PART ONLY WARRANTY COVERING ISLANDAIRE THRU-WALL AIR CONDITIONERS & HEAT PUMPS

THIS WARRANTY APPLIES TO THE AIR CONDITIONER UNIT ("THE UNIT") THAT IS THE SUBJECT OF THIS SALE AND IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. THIS WARRANTY DOES NOT APPLY TO ANY ACCESSORY THAT IS NOT A PART OF THE UNIT AS SHIPPED BY ISLANDAIRE. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL EQUIPMENT AT THE ORIGINAL INSTALLATION LOCATION. PROOF OF PROPER, ROUTINE MAINTENANCE WILL BE REQUIRED IN ORDER TO MAINTAIN EXTENDED WARRANTY.

ISLANDAIRE the "Company" of East Setauket, New York warrants the unit free from defects in material and workmanship under normal use and service, for the twelve-month period following the date of installation.

WARRANTY Coverage includes repair or replacement, at the Company's option, of any defective parts that fail under normal use for the first 365 days after the date of equipment installation\* under the terms, conditions and limitations of the warranty. All defective parts shall be returned within thirty days after removal to the Company at such locations as the Company may designate. Islandaire reserves the right to impose an inspection charge and/or a restocking fee in cases where parts or equipment have been improperly returned as defective and/or as being in warranty. A warranty part can only be replaced one time over the duration of the warranty period.

WARRANTY coverage also includes Labor Charges on all covered repairs performed by an Islandaire Authorized Service Company in accordance with the terms, conditions and limitations of the warranty. Extra charges such as emergency calls, nuisance calls, mileage, overtime or shipping are not covered. Check, test, and start by an experienced person are responsibility of the installing contractor. Check, test and start shall include physically operating each unit in both cooling and heating modes and correcting any minor deficiencies noted. On occasion, wires may become disconnected or components may be dislodged from their bases as a result of rough handling during transport, causing improper functioning of the unit. Correction of these minor conditions is part of Check, Test, and Start.

WARRANTY Coverage of the Compressor and parts only shall continue from the 2nd through 5th year from date of equipment installation\*. Labor is not included.

ADDITIONAL SEALED SYSTEM WARRANTY Coverage includes replacement of any part of the sealed refrigeration system, including the compressor, evaporator, condenser and connecting tubing, that proves to be defective from the 2nd through 5th Year from the date of installation. Labor is not included. Freight charges for replacement and return of defective warranty parts will be the Company's responsibility.

IN NO EVENT SHALL THE COMPANY'S MAXIMUM LIABILITY EXCEED THE SELLING PRICE OF THE UNIT CLAIMED TO BE DEFECTIVE.

As a condition precedent to the Company's obligation under this WARRANTY, it shall be the obligation of the Owner during the designated WARRANTY period to furnish the following information to the Company within three days after unit failure: 1) Model Number and Serial Number of unit involved, 2) A full and complete description of the problem encountered with the unit. Upon receipt of the above information, the Company will reply to the Owner within a period not to exceed fifteen working days, with a description of the action the Company desires to take.

Contact the Islandaire Customer Service Department at 800-886-2759.

To validate this WARRANTY, you must complete the registration information below and return the pre-addressed card to Islandaire within seven days of equipment installation. The actual warranty type for your equipment is stated on the original Islandaire invoice for said equipment. Proof of installation date is required.

\*Please be advised, where no Warranty Registration Card has been returned, the original date of invoice of the equipment shall become the start date of the warranty period.

# EZ REPLACEMENT GUIDE

Original Model	Case Height	Case Width	Our Model	Original Model	Case Height	Case Width	Our Model
<b>Amana®</b>				<b>Keeprite®</b>			
PT 42 x 16 Series	16	42	<b>42</b>	Climette	18 5/16	32	<b>CS</b>
PB 26 x 16 Series	16	26	<b>26</b>	Seasonall	18 5/16	32	<b>CS</b>
<b>American Air Filter®</b>				<b>Lennox®</b>			
Enersaver Type 16	16	37 1/2	<b>16</b>	PTEIA Series	22 1/4	38	<b>PT</b>
Type 16 Hydronic	16	41 1/2	<b>16</b>	<b>McQuay®</b>			
Nelsonaire Series 25	16	36 1/2	<b>25</b>	C/EC	27 3/8	54 1/2	<b>EC</b>
<b>American Standard®</b>				EB Series	22	30 5/8	<b>EB</b>
TW Series Type 41	16	36 1/2	<b>41</b>	J/EJ Series	14	30	<b>JA</b>
Type 40 Remotaire(SR)	16 1/2	37	<b>40</b>	K, EK and RK Series	13 15/16	36	<b>KF</b>
<b>Applied Comfort®</b>				Type EA, ES and RS	16 3/8	44 7/8	<b>ED</b>
DM/DMQ	18 5/16	32	<b>CS</b>	Type NE	16	42	<b>NE</b>
SC Series	16	40	<b>SC</b>	<b>Mueller®</b>			
SC Series	16	36	<b>RM</b>	Climatrol	16	48	<b>UN</b>
<b>Carrier®</b>				<b>Remington®</b>			
51PH Wallmate	18 15/16	32	<b>CS</b>	J/EJ Series	14	30	<b>JA</b>
<b>Cartaret®</b>				K, EK and RK Series	13 15/16	36	<b>KF</b>
Type 45	16 1/2	37	<b>45</b>	Type 41	16	36 1/2	<b>41</b>
<b>Chromalox®</b>				Type 45	16 1/2	37	<b>45</b>
Space Command	16 1/2	45 1/8	<b>CH</b>	<b>Simonaire®</b>			
CAM (2 section)	15	35 1/2	<b>CX</b>	SSK	15 3/4	41	<b>RT</b>
<b>Chrysler®</b>				SSEZ	15 3/4	41	<b>RT</b>
	15 1/2	36	<b>CY</b>	SSCT	15 3/4	41	<b>RT</b>
<b>Climate Master®</b>				<b>Singer®</b>			
Climate Master Series 700AD	16	36	<b>AD</b>	C/EC	27 3/8	54 1/2	<b>EC</b>
Climate Master Series 701	16	40 1/2	<b>C7</b>	EB	22	30 5/8	<b>EB</b>
Climate Master Series 702, 703 & 704	16	36	<b>CM</b>	<b>Slant Fin®</b>			
<b>Dunham Bush®</b>				J/EJ Series	14	30	<b>JA</b>
New Port III	25	52	<b>N3</b>	K, EK and RK Series	13 15/16	36	<b>KF</b>
New Port IV	25	52	<b>N3</b>	Type 41	16	36 1/2	<b>41</b>
<b>Fedders®</b>				Type 45	16 1/2	37	<b>45</b>
Maxizone Series	16 1/4	27	<b>MX</b>	Type EA, ES and RS	16 3/8	44 7/8	<b>ED</b>
Unizone	16	48	<b>UN</b>	<b>Suburban Dynalene®</b>			
<b>Friedrich®</b>				JK	16	42	<b>JK</b>
Climate Master Series 700AD	16	36	<b>AD</b>	CC Monterrey	16	42	<b>CC</b>
Climate Master Series 701	16	40 1/2	<b>C7</b>	Monterrey	17 1/2	36	<b>FM</b>
Climate Master Series 702, 703 & 704	16	36	<b>CM</b>	<b>Weil-Mclain</b>			
ET Series	20	28	<b>ET</b>	ClimateMaster Series 700AD	16	36	<b>AD</b>
TE Series	16	42	<b>TE</b>	Climate Master Series 702, 703 & 704	16	36	<b>CM</b>
Vert-I-Pak	32	23	<b>VP</b>	<b>Westinghouse®</b>			
<b>General Electric®</b>				RB Series	15	38 1/2	<b>RB</b>
Zoneline	16	42	<b>42</b>	<b>Worthington®</b>			
AJ Series	16	26	<b>26</b>		16	48	<b>UN</b>
AZ Vertical	31	23 1/4	<b>VP</b>	<b>Zoneaire®</b>			
<b>Heil Quaker®</b>				CHP Series	18 5/16	32	<b>CS</b>
SEA Series	14 1/2	35 7/8	<b>HQ</b>	CSM Series	18 5/16	32	<b>CS</b>
SHA Series	14 1/2	35 7/8	<b>HQ</b>	Zoneaire, RM Series	16	36	<b>RM</b>
Series C	18 5/16	32	<b>CS</b>	Zoneaire, SC Series	16	40	<b>SC</b>
<b>Ice-Cap / Ice Air®</b>				<b>Custom Products</b>			
RSK Series	16	36	<b>RK</b>	Vertical Units, Fan Coils, and other related HVAC products. (Consult with Factory)			
RSCT Series	15 3/4	41	<b>RT</b>	<i>If you don't see the unit you're looking for in the above list, please call us about having a unit custom designed for you.</i>			
RSWL Series	13 1/4	56 1/2	<b>WL</b>				
<b>ITT Nesbitt®</b>							
Challenger Series	16 1/4	42 1/4	<b>NC</b>				
Roomate Series - N	-	-	<b>CY</b>				
Modular Roomate (MW)	-	-	<b>NR</b>				

**Ask your salesman about  
our DR. VTAC option!\***

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