PRODUCT PROFILE



NRP

Variable Refrigerant Packaged Heat Pump

Innovative | Intelligent | Inverter

A single packaged climate control solution offering the efficiencies and benefits of multiple complex HVAC systems without the complications associated with them.

VRP® Delivers

Best In Class Cooling Performance Super Efficient Heating LOW True Humidity Control **Conditioned Fresh Air**



Low Ambient Control

One or more of the following patents may apply: 10408504 10436457 10488083 10731899

FRIE RIEDRICH PRECISION CERTIFIED. Fresh4 ire INVERTER Interte

Additional patents pending

THE EXPERTS IN ROOM AIR CONDITIONING

Introduction

The Friedrich VRP® is a variable capacity system that utilizes Precision Inverter® technology to provide optimal space conditions. While each VRP unit has a nominal capacity of 7,000, 12,000, 24,000, or 36,000 Btus, every unit has the ability to adjust Btu output based on the actual room load. This equates to:

- Greater in-room dehumidification from longer compressor run time
- Lower energy costs by consuming less power
- Greater occupant comfort due to smaller swings in room temperature and humidity

The VRP accomplishes this by constantly monitoring various system and environmental inputs to vary the output of the unit.

The ability to vary compressor and blower speeds and the use of reheat coil enables the VRP to provide optimal comfort. With up to 15.2 SEER2 and 7.2 HSPF2, the VRP provides a highly efficient solution. Further, the Precision Inverter technology allows the heat pump to operate at ambient conditions as low as 0° F reducing the use of strip heat. This results in significant savings in operational costs.

An optional integrated FreshAire[™] system delivers conditioned fresh air into the space. The fresh air is filtered through a MERV 8 filter and is then conditioned through the unit's primary DX coils backed by a reheat coil that augments the unit's dehumidification capability. This integrated fresh air solution provides the ability to potentially downsize or eliminate additional make up air and humidity control equipment.

Friedrich's wall controller is the main interface between conditioned space and the unit. The controller has seven back-lit segment displays that indicate the system mode (cool, heat, fan only), fan speed (low, high or auto), set point (°F or °C) or alternatively room temperature (°F or °C).

The controller has an integrated temperature and humidity sensor that sends room status to the main control unit (MCU) to determine operating modes and speeds of various components.

The wall controller also contains a motion sensor that wakes the wall controller from a sleep mode when not in use. This energy saving feature eliminates annoying glow from the controller and the need to turn on lights at night to operate it.

The unitary packaged design means easier installation or replacement. Because the VRP is a packaged unit, it is installed as a completely assembled refrigeration system. Unlike VRF or chilled water systems that require on-site wiring, piping and sealing of individual components, VRP units are assembled, charged and run tested under strict quality control guidelines in Friedrich's North American factory. Additionally, there is no need to locate the cooling tower or condensing units on the ground or rooftops where green spaces can exist instead.

In sum, The Friedrich VRP offers a significant value to all parties involved in the design and construction of a new building. Because of the simpler and more straightforward nature of the packaged design, and the ability to potentially downsize or eliminate additional make up air and humidity control equipment, the VRP reduces much of the headache and complexity facing the design engineer. Because the VRP is easy to install, with no complicated floor-to-floor piping and wiring involved, the contractor can be confident of a high-quality installation and get on and off the job more quickly. And finally, the owner gets the efficiency and performance of larger, more complex and costly equipment, with a lower overall installed cost; and he/she virtually eliminates the potential safety and service issues associated with systems that rely on thousands of feet of refrigerant or water piping running throughout the building, including occupied spaces.

NOTE: For full installation information and methods, please review the Installation & Operations Manuals

Key Features

Best In Class Performance

- Precision Inverter[®] variable speed compressors deliver efficiencies up to **18.0 SEER2**
- Can operate at up to 120% of rated capacity to reach set point quickly
- Low-ambient heat pump operation to 0° F
- Upto 7.6 HSPF2

Superior Efficiency

- Meets Energy Star 6.0 Requirements*
- NEEP cc-ASHP Listed
- AHRI Certified
- Significant energy savings over resistive heating and may qualify for utility rebates

True Humidity Control

- Sophisticated humidity control system with on-board sensors and humidistats
- Ability to adjust compressor speed enhances dehumidification
- Hot Gas Re-heat coil helps maintain desired humidity without compromising room temperature.

Conditioned Fresh Air

- Optional FreshAire™ system brings in up to 130 CFM of conditioned, **MERV 8**-filtered outside air
- Helps building owners conforms to ASHRAE 62.1/2 IAQ building codes
- Reduce much of the cost and complexity associated with dedicated outside air systems



A Commitment to Quality Since 1883

Founded in 1883, Friedrich has manufactured room air conditioners since 1952. Friedrich is a leading manufacturer of air conditioners and other home environment products. Constructed of the highest quality components, Friedrich products are built to exacting standards and are among the quietest, most highly featured and most energy-efficient available. If you demand the best, it has to be a Friedrich.

| No | men | ncl | ature |) | | | | | | | | | |
|---------------------------|-----------------------|-------|-------------|----------|---|--------|--|-------------------------|----------|-----------------------|------------------------|------------------------|---------------------|
| v | R | Ρ | 2 | 4 | К | 2 | 5 | S | S | В | S | С | - A |
| Series | | | | | | | | | | | | Marketing Revision | Engineering |
| Variable | | | | | | | | | | | | C - A2L Version R32 | Revision |
| Refrigerant | tea | | | | | | | | | | Low Ar | nbient | |
| Pump | cat | | | | | | | | | | S = Sta | ndard | |
| | | | | | | | | | | | | | |
| Neminal Ca | na sity (Di | /L | []] | | | | | | | | L = Bas | se pan heat | |
| | 10 000 Or | | ing range | | | | | | | | | | |
| 12 - 5 / 00 | 14,000 OF | Jerat | ing range | | | | | | | | Planum | and louver configurati | 0.0 |
| 12 = 5,400 - | 20,000 0 | berau | ing range | | | | | | | | Flenum | and touver configurati | 011 |
| 24 = 14,500 - | - 28,000 0 | pera | ating range | | | | | A= Only for VRP12 units | | | | | |
| $\frac{36}{36} = 20,000$ | - 36,000 C | pera | ting range | | | | | | | | B= For \ | /RP24 (can also be use | d for VRP12 units) |
| Voltage | s will be | rele | ased soon) | | l | | | | | | C = Only | for VRP36 | |
| K - 220/200 | | וסי | | | | | | | | | | | |
| R = 250/200 | | (27) | | | | | | | | | D = Only | | |
| R = 205 V (V) | N 077 127 | 24J | | -1 | | | | | | | | | |
| Heater watt | | bere | eleaseu soo | 11) | | | | | | | | | |
| 00 = 0.0 kW (VRP07/36) | | | | | | Reheat | | | | | | | |
| 25 = 2.5 kW (VRP07/12) | | | | | | | S= Sta | andard; I | R= Rehea | at (VRP07, 12, 24) | | | |
| 34 = 3.4 kW (VRP07/12/24) | | | | | | 0 | | /// | | tandard unit Na Frank | AiroTM | | |
| 50 = 5.0 KW (VRP12/24) | | | | | | | Outa | or Air/ | ventilat | ion 5= 5 | tandard unit. No Fresh | AIre | |
| 75 = 7.5 kW (VRP24) | | | | | | | F= Single Module FreshAire System 35 CFM (VRP07,12, 24)/85 CFM | | | | | | |
| 10 = 10.0 kW | V (VRP2 | 4/36 |] | | | | | UNKP. | 201 | | | | |
| | | | | | | | | D= Di | ual Moo | dule Fres | hAire Sy | stem 70 CFM (VRP12, | 24)/130 CFM (VRP36) |

| Model | VRP07K /VRP07R * | VRP12K / VRP12R * | VRP24K / VRP24R * |
|---|-----------------------------|------------------------------|------------------------------|
| Cooling Performance Data (Cooling Standa | rds: 95°F DB/75°F WB | outdoor, 80°F DB/67° | 'F WB indoor) |
| Voltage | 230/208 | 230/208 | 230/208 |
| Cooling Btu (Rated) | 7,000 | 11,500 | 23,300 |
| Cooling Btu (Min Max) | 3,800 - 10,000 | 5,400 - 16,000 | 14,500 - 28,000 |
| Outdoor Operating Range(°F) | 55 - 115 | 55 - 115 | 55 - 115 |
| Power (W) | 621 | 1,000 | 2,198 |
| SEER2 | 16.5 | 18.0 | 17.5 |
| EER2 | 11.0 | 11.5 | 10.8 |
| Sensible Heat Ratio | 0.83 | 0.8 | 0.75 |
| Cooling Amps | 2.97 | 4.3 | 9.5 |
| Heat Pump Performance Data | | | |
| Heating Btu (Rated @ 47° F) | 7,000 | 11,500 | 22,000 |
| Heating Btu (@ 17° F) | 4,300 | 6,200 | 13,000 |
| Heating Btu (Min Max.) | 2,800 - 9,000 | 4,000 - 14,000 | 12,000 - 26,000 |
| Heat Pump Outdoor Operating Range (°F) | 0 - 70 | 0 - 70 | 0 - 70 |
| COP (Rated @ 47° F) | 3.2 | 3.4 | 3.4 |
| HSPF2 | 7.2 | 7.6 | 7.6 |
| Heating Power (W) | 633 | 991 | 1,810 |
| Heating Amps | 2.9 | 4.3 | 9.0 |
| (265v unit specs and VRP36 specs will be released s | oon) | | |

VRP® Variable Speed System vs. Fixed-speed System

Low Ambient Heat Pump Performance: Variable speed technology enables VRP units to supply continuous hot air in heat pump mode even at low outdoor ambient temperatures. This reduces strip heat usage resulting in exceptional savings with VRP units when compared with traditional fixed-speed units which need to switch to strip heat at much higher ambient temperatures.



Precise Temperature & Humidity Control: VRP units not only help keep the air at the preferred temperature, but can more effectively remove moisture from the air. VRP units run longer cycles at lower pressures, helping to cool the air more evenly. The combination of variable speed compressor & blower motor and reheat coil in VRP units provide optimal comfort to the occupants. On the other hand, traditional fixed-speed systems tend to cool the air too fast without proper moisture removal increasing the risk of mold and other airborne problems.



FreshAire[™] Conditioned Fresh Air

Helps Buildings Comply With ASHRAE 62.1 & 62.2

FreshAire, is a dedicated fresh air system that brings in up to 130 CFM of outdoor air into the VRP[®] unit. The FreshAire system can provide between 35 and 130 CFM (depending on model) of fresh outside air into the unit. The outdoor air passes through dedicated 6"x 6"x1" MERV 8 filter(s) that are easily replaceable from the front of the unit.

This outdoor air is mixed with the return air inside the unit prior to the main evaporator coils, reheat coil and heater. Because of the variable speed of both the compressor and evaporator fan, the VRP can increase or decrease the unit's capacity to cool, heat or dehumidify the total supply air. The system uses a proprietary algorithm to measure the dew point of the leaving air. As the system nears the room set point, the system will throttle back both the compressor and the supply air volume in order to maximize the dwell time on the indoor coil to maximize dehumidification.

(Single speed systems cycle on and off, providing less dehumidification capacity and run time as well as encounter condensate re-evaporation when cycled off.)



Reheat Coil - Augments VRP's Dehumidification Capability

Temperature differences are not the only source of discomfort in a living space. Humidity also plays a big role—especially in climates that tend to be both hot and humid. The air conditioning industry's focus on humidity issues has elevated the importance of dehumidification. Air conditioning units operate in environments with varying indoor humidity levels. Therefore, the system should be able to adequately respond to the humidity changes by removing sufficient amounts of moisture in order to keep the conditioned space within the comfort zone.

Anytime the compressor is running in air conditioning mode, it will also be pulling humidity out of the space. Fixed-speed systems shut off after the desired set temperature is reached (i.e. when the sensible load is met). VRP® units run much longer at lower capacity and energy consumption than traditional systems. Humidity levels are reduced to more comfortable levels. The dehumidification capability of VRP units is enhanced through the use of a reheat coil that provides superior flexibility in satisfying a wide range of latent and sensible capacity demands. The reheat coil is placed behind the evaporator coil.

At relatively high ambient temperatures, both sensible and latent components of the system capacity are required to satisfy increased cooling and dehumidification demands. The VRP wall controller and other sensors in the unit combine to continuously monitor the space RH levels and when there is demand for extra dehumidification, the refrigerant exiting the condenser is rerouted to the reheat coil located behind the evaporator on the way to the indoor air stream supplied to the conditioned space.

Thus, cooled and dehumidified air exiting the evaporator coil is reheated to desirable comfort levels for the space.



Advanced Humidity Control in VRP vs. Traditional Systems

Condenser CFM & External Static Pressure

VRP® is designed to mount through an exterior wall through a Friedrich wall plenum with an external louver. Building design and applications may require different configurations of this external connection for aesthetic/architectural reasons. These different configurations may include custom louvers, plenums or special ducted returns. The following are guidelines for the design of these custom external configurations.

| Condenser External Static Pressure | | | | | | |
|------------------------------------|------|-----------|-----------|--|--|--|
| Madal | De | Maximum | | | | |
| | CFM | ESP ("WC) | ESP ("WC) | | | |
| VRP07 | 550 | 0.02 | 0.08 | | | |
| VRP12 | 700 | 0.03 | 0.1 | | | |
| VRP24 | 1150 | 0.017 | 0.11 | | | |
| VRP36 | 2030 | 0.03 | 0.20 | | | |

CAUTION: If the Friedrich designed plenum and louver combinations are not used, the louver/duct design must be evaluated to insure the total pressure drop does not exceed the maximum allowable limits.

Sound Data (Prior Series)

| Sound Data | | | | | | | |
|------------|---------|------------|--------------------|------|--|--|--|
| Medel | Sound P | ower (dBA) | Transmission Class | | | | |
| | Indoor | Outdoor | STC | OITC | | | |
| VRP07**A | 61.1 | 63.6 | 22 | 14 | | | |
| VRP12**A | 56.9 | 65.8 | 27 | 17 | | | |
| VRP24**A | 65.7 | 77.0 | 27 | 17 | | | |
| VRP36**A | 68.0 | 79.4 | 25 | 18 | | | |

NOTE: Testing performed by 3rd party lab. The above values representative of an installation of the unit into an exterior wall through a wall-sleeve without a finished closet. VRP is typically installed in a finished closet. Friedrich reccomends that closet wall construction include finished walls on both the interior and exterior sides for optimal sound attenuation.

Electrical Data

| VRP Model | Electric Heater Size | Voltage | Electric Heater Watts | Electric Heating Btu | Total Electric Heating Amps | ID Blower Amps | OD Blower Amps | МСА | MOP / MOCP |
|-----------|----------------------------|---------|-----------------------------|----------------------------|--------------------------------------|-------------------|-------------------|------------------|---------------|
| | 0 kW | 230 | 0 | 0 | 0 | 0.16 | 0.42 | 0.5 | 15 |
| VRP07K | 0kW | 208 | 0 | 0 | 0 | 0.23 | 0.49 | 0.5 | 15 |
| | 2.5 kW | 230 | 2500 | 8530 | 11 | 0.16 | 0.42 | 14.4 | 15 |
| | 2.5 kW | 208 | 2044 | 6980 | 10 | 0.23 | 0.49 | 14.4 | 15 |
| | 3.4 kW | 230 | 3400 | 11600 | 15 | 0.16 | 0.42 | 10.0 | 20 |
| | 3.4 kW | 208 | 3021 | 10302 | 14 | 0.23 | 0.49 | 19.2 | 20 |
| VRP07R | | | 26 | 5v electrical sp | becs will be re | leased soon | | | |
| | 2.5 kW | 230 | 2500 | 8525 | 10.6 | 0.5 | 0.42 | 147 | 15 |
| | 2.5 kW | 208 | 2261 | 7710 | 9.6 | 0.5 | 0.42 | 14.7 | 15 |
| VPP42K | 3.4 kW | 230 | 3340 | 11389 | 14.5 | 0.5 | 0.42 | - 19.5 - 28.3 | 20 |
| VKF IZK | 3.4 kW | 208 | 3021 | 10302 | 13.1 | 0.5 | 0.42 | | 20 |
| | 5.0 kW | 230 | 4940 | 16845 | 21.5 | 0.5 | 0.42 | | 30 |
| | 5.0 kW | 208 | 4467 | 15232 | 19.4 | 0.5 | 0.42 | | 50 |
| VRP12R | | | | 265v specs | will be release | ed soon | | | |
| | 3.4 kW | 230 | 3340 | 11389 | 14.5 | 1.55 | 1.1 | 24.2 | 25 |
| | 3.4 kW | 208 | 3021 | 10302 | 13.1 | 1.55 | 1.1 | 24.5 | 25 |
| | 5.0 kW | 230 | 5000 | 17050 | 21.7 | 1.55 | 1.1 | 20.0 | |
| VPP24K | 5.0 kW | 208 | 4522 | 15420 | 19.6 | 1.55 | 1.1 | 29.9 | - 30 |
| VKP24K | 7.5 kW | 230 | 7500 | 25575 | 32.6 | 1.55 | 1.1 | 40 E | 45 |
| | 7.5 kW | 208 | 6783 | 23130 | 29.5 | 1.55 | 1.1 | 43.5 | 40 |
| | 10.0 kW | 230 | 9800 | 33418 | 42.6 | 1.55 | 1.1 | 56 | 60 |
| | 10.0 kW | 208 | 8863 | 30223 | 38.5 | 1.55 | 1.1 | 50 | 00 |
| VRP24R | | | | 265v specs | will be release | ed soon | | | |
| VRP36K | | | | VRP36 spece | s will be releas | ed soon | | | |

MCA = Minimum Circuit Ampacity

MOP / MOCP = Maximum Overcurrent Protection / Breaker Size

Minimum Circuit Amps (MCA) and MOCP values in the above table are calculated in accordance with The NEC. Article 440

Unit Dimensional Data



Unit Dimensional Data



| Model | VRP07K/R | VRP12K/R | VRP24K/R | VRP36K |
|---------------------------------|---|---|---|---|
| Dimensions (W x D x H) | 22 ¹⁵ /16" x 22 ¹³ /16" x 44 ¹⁵ /16" | 26 ¹ /8" x 25 ¹ /8" x 52" | 26 ¹ /8" x 25 ¹ /8" x 62" | 31 ³ /4" x 29 ⁷ /8" x 77 ¹ /4" |
| Shipping Dimensions (W x D x H) | 25" x 25" x 48 ¹ /4" | 28 ¹ /8" x 27 ³ /8" x 54 ¹ /2" | 28 ¹ /8" x 27 ³ /8" x 64 ¹ /2" | 34" x 35" x 81" |

Closet Exploded View



NOTE: For orientation and closet dimension information, please review the Installation & Operations Manuals.

Wall Opening Dimensions

| EXTERIOR WALL C | | | |
|-----------------|---------|---------|--|
| Unit | W | Н | Height from floor/platform to rough opening |
| VRP07 | 24 5/8" | 30 7/8" | 3/4" |
| VRP12 | 28 1/8" | 32 1/4" | 3" |
| VRP24* | 28 1/8" | 42 1/4" | 3" |
| VRP36 | 32 1/4" | 52 1/2" | 2 7/8" |

* Also applicable for 12K unit if VRPXALB / VRPXSCB Louver and VRPXWPB-8 / VRPXWPB-14 plenum are selected to be used with 12K unit. (Hint: Your unit model name should have letter '**B**' as the 11th digit. Example: VRP12K34SS**B**S)



Exterior Rough Opening

| INTERIOR WALL OPENING DIMENSIONS | | | | |
|----------------------------------|-----|---------|--|--|
| Unit | W | Н | | |
| VRP07 | 27" | 55 3/4" | | |
| VRP12 | 30" | 69 3/4" | | |
| VRP24 | 30" | 69 3/4" | | |
| VRP36 | 36" | 84" | | |

NOTE: Due to its size, VRP36 should be installed in a closet using a louvered or solid 3 foot standard closet door.



FreshAire[™] System Set-Up and Operation





If equipped with the FreshAire™ System, the unit will come with a FreshAire Filter and Blank Off Plate.

Blank Off Plate must be removed before use.

To remove the Blank Off Plate, simply pull the attached tab shown in Detail A. Blank Off Plate can be discarded or retained for future use.



VRP Wall Controller Options

Friedrich offers two types of control options for VRP units:

- Standard Wall Controller (Wired), VRPXWCT4
 - No occupancy sensor.
- Energy Management Wall Controller with an Occupancy Sensor
 - Wired, VRPXEMRTA/B4
 - Wireless, VRPXEMWRTA/B4

NOTE: VRPXEM(W)RT2, VRPXEM(W)RT3 and VRPXWCT <u>will not be</u> compatible with the new R32 VRPs. VRPXEM(W)RTA/B4 or VRPXWCT4 is an required accessory for the R32 VRP.





VRPXWCT4

- Wired Only
- Auto Changeover
- Quick and easy Installation

VRPXEMRTA4 / VRPXEMWRTA4 - White VRPXEMRTB4 / VRPXEMWRTB4 - Black

- Real time motion and thermal occupancy sensor
- Wired or wireless installation
- 5 energy savings presets
- Online management



Please check the Instruction and Operational manual of the VRPX*4 Wall Controller for detailed installation. All units are equipped with a RJ-45 connection in front to be able to connect to a wired or wireless thermostat.

VRP units are only compatible with Friedrich VRPX*4 controller.

Louvers

| Accessory | Description | Compatible Model(s) |
|-----------|---|---------------------|
| VPAL2 | Architectural louver - 30° Blade angle | VRP07 |
| VRSC2 | Architectural louver - 30° Blade angle - Custom color (Special order) | VRP07 |
| VRPXALA | Architectural louver - 30° Blade angle | VRP12 |
| VRPXSCA | Architectural louver - 30° Blade angle - Custom color (Special order) | VRP12 |
| VRPXALB | Architectural louver - 30° Blade angle | VRP12 & VRP24 |
| VRPXSCB | Architectural louver - 30° Blade angle - Custom color (Special order) | VRP12 & VRP24 |
| VRPXALC | Architectural louver - 30° Blade angle | VRP36 |
| VRPXSCC | Architectural louver - 30° Blade angle - Custom color (Special order) | VRP36 |

42° blade angle louvers available by special order.

Wall Plenums

| Accessory | Description | Compatible Model(s) |
|------------|--|---------------------|
| VPAWP1-8 | Vert-I-Pak/VRP floating chassis, telescoping wall plenum - 4"-8" wall depth | VRP07 |
| VPAWP1-14 | Vert-I-Pak/VRP floating chassis, telescoping wall plenum - 8"-14" wall depth | VRP07 |
| VRPXWPA-8 | VRP floating chassis, telescoping wall plenum - 4"-8" wall depth | VRP12 |
| VRPXWPA-14 | VRP floating chassis, telescoping wall plenum - 8"-14" wall depth | VRP12 |
| VRPXWPB-8 | VRP floating chassis, telescoping wall plenum - 4"-8" wall depth | VRP12 & VRP24 |
| VRPXWPB-14 | VRP floating chassis, telescoping wall plenum - 8"-14" wall depth | VRP12 & VRP24 |
| VRPXWPC-8 | VRP telescoping wall plenum - 4"-8" wall depth | VRP36 |
| VRPXWPC-14 | VRP telescoping wall plenum - 8"-14" wall depth | VRP36 |

Access Panels

| Accessory | Description | Compatible Model(s) |
|-----------|---|---------------------|
| VPRG4 | Vert-I-Pak/VRP louvered access panel - left in-swing | VRP07 |
| VPRG4R | Vert-I-Pak/VRP louvered access panel - right in-swing | VRP07 |
| VRPXAP1 | VRP louvered access panel (left and right in-swing) | VRP07, VRP12, VRP24 |
| VRPXAPPR1 | VRP hanging perimeter return access panel | VRP07, VRP12, VRP24 |

Pre-primed (paintable) panels available by special order

Miscellaneous

| Accessory | Description | Compatible Model(s) |
|-----------|---|-------------------------------|
| VPDP2 | VRP07 auxiliary drain pan (Required) | VRP07 |
| VRPXFK-2 | Filter bracket kit for 2" deep filters (up to MERV 13) - includes gasket | VRP07, VRP12, VRP24, VRP36 |
| VPFKU | Telescoping filter bracket kit for 2" - 4" deep filters (up to MERV 13) - includes gasket | VRP07, VRP12, VRP24, VRP36 |

Installation Accessories and Descriptions

Wall Controllers and Accessories

| Accessory | Description | Compatible Model(s) |
|---------------|---|-------------------------------|
| VRPXWCT4 | Wired standard VRP wall controller | VRP07, VRP12, VRP24, VRP36 |
| VRPXEMRTA/B4 | Wired energy management wall controller | |
| VRPXEMWRTA/B4 | Wireless (to the unit) energy management controller | |
| EMOCT4 | Energy management online connection kit | |
| EMRAF4 | Energy management online remote access fee | |
| EMROS4 | Energy management wired remote occupancy sensor | |
| EMRTS4 | Energy management remote temperature sensor | |
| EMRDS4 | Energy management door switch | |
| EMCWP4 | Energy management J-box wall-plate | |
| EMRWOS4 | Energy management wireless remote occupancy sensor | |

HVAC Engineering Specification

Performance: Units shall have the following minimum specifications.

VRP[®] Packaged Heat pumps

General Construction

- Factory assembled, piped, wired and fully charged with R32.
- Units shall be tested in accordance to AHRI Standard 210/240.
- Units shall be ETL listed and carry the ETL Label.
- All Units shall be factory run tested.
- · Basic unit dimensions see unit dimension drawings.
- Unit designed to be inserted into a factory supplied wall plenum 2 3/8".
- Factory supplied plenum shall allow for a wall 4 1/2" to 14" wall thickness. (Shipped separately)
- Wall plenum will be adjustable to allow for a tight installation.
- Unit shall be capable of left, right or straight in installations into a mechanical closet without field modifications.
- Unit shall be secured to the architectural louver by means of a two-part, weather-resistant wall plenum.
- Unit will be separated from the wall plenum with a gasket joint such that there is no metal to metal contact.
- Constructed of minimum 20 gauge steel.
- 1/4 inch Closed Cell Flexible Elastomeric Foam Insulation in the evaporator section and Glass Fiber insulation in the condenser section for sound and thermal efficiency
- Unit shall be powder coated for durability.
- · Plenum shall be black in color to minimize visibility from the exterior of the building.
- Plenum shipped with a protective weatherboard for use prior to final installation of unit and louver.
- · Material of construction in the condenser section to minimize rust marks on the outside of the building.

Architectural Louvers

- · Shipped separately.
- Fabricated from extruded anodized aluminum.
- Horizontal blade louvers in 30° blade angle (42° optional).

Refrigeration System

- · Hermetically sealed.
- DC Inverter variable speed compressor.
- Compressor shall increase and decrease in 1Hz steps for maximum efficiency.
- Compressor shall operate between 20Hz and 75Hz for variable capacity operation.
- External "rubber in shear" vibration isolators.
- Coils copper tubes and aluminum fins.
- · Electrically controlled expansion device.
- Condenser fan will use a Slinger Ring design to improve efficiency and aid in removal of condensate.
- Primary removal of condensate will consist of ¾" FPT on three sides for ease of installation.
- Secondary overflow to the outside of the building will be provided in the event of a condense overflow from a clogged primary drain.
- Suction line insulation.

Air Handling Section

- ECM fan motor.
- Backward Inclined style fan wheel.
- · Vertical airflow.
- Unit will be provided with a rectangular started collar as shown on the general arrangement drawings.

HVAC Engineering Specification (cont.)

For adaption to rigid or flexible ducting.

Fans

• Polymeric fan, fan shroud.

FreshAire™ (Optional)

- Unit will have the capability to provide 35-130 CFM of conditioned fresh air (based on model) to the space continuously.
- Auxiliary fans will ensure positive ventilation.
- FreshAire can be enabled/disabled electrically using an on/off switch.
- The outdoor air will be filtered through MERV8 filters.

Controls

- Unit controlled with the Manufacturer supplied wall-mounted control.
- In the event of wall control failure, unit will operate autonomously to factory default settings.
- Unit will modulate compressor capacity and fan speed to optimally match the space load.
- Wall control will measure space humidity and temperature, and then configure the unit to maintain space temperature and humidity.
- Unit shall be permanently wired with a quick disconnect supplied by the installing contractor.
- Emergency heat override switch is provided to enable the resistance strip heaters in case of heat pump failure.
- · Unit will be provided with diagnostic tools for service.

Corrosion Protection

- · Corrosion resistant coatings.
- Outside coil has Diamonblue Advanced Corrosion Protection® consisting of hydrophilic-coated fins.

Access Panel

Warranty

- 1 year parts.
- 5 years on the sealed refrigeration system; including compressor, indoor and outdoor coils, and tubing.

| Notes | |
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PRODUCT PROFILE

VRP[°]

Variable Refrigerant Packaged Heat Pump

Innovative | Intelligent | Inverter



Friedrich Air Conditioning Co. | 10001 Reunion Place, Suite 500 | San Antonio, TX 78216 | 877.599.5665 | www.friedrich.com