



SECTION 15700

PACKAGED HVAC SYSTEM

**** NOTE TO SPECIFIER ** Magic-Pak®; heating and cooling solutions.**
This section is based on the products of Magic-Pak®, which is located at:
215 Metropolitan Dr.
West Columbia, SC 29170
Toll Free Tel: 800-448-5872
Email: [request info \(\)](#)
Web: www.magic-pak.com

[[Click Here](#)] for additional information.

Magic-Pak Single Packaged Vertical Units combine heating and cooling in one compact, easy-to-install unit. Because these are ducted units, they are perfect for apartments, condominiums, assisted living, dormitories, and other multiple occupancy buildings. Professionals who take pride in a building's appearance and expect reliable performance know that Magic-Pak units are their best choice.
Available in gas heating/electric cooling, heat pump and electric heating/cooling, Magic-Pak units' features make them the easiest combination heating and cooling you can specify.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

- A. Gas heating/ electric cooling packaged units. (MGE4 and HWC4)
- B. Electric heating/ electric cooling packaged units. (MCE4 and EWC4)
- C. Electric heat pump packaged units. (MHP4)

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

- A. Section 15050 - Common Work Results for HVAC.
- B. Section 16050 - Common Work Results for Electrical.

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

- A. ANSI/AHRI 390: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Shop Drawings and Wiring Schematics: Provide detailed physical layout and wiring schematics for installation.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2 year experience installing similar products.

**** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 1. Finish areas designated by Architect.
 2. Do not proceed with remaining work until workmanship is approved by Architect.
 3. Refinish mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handle materials as recommended by manufacturer to avoid damage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Magic-Pak®, which is located at: 215 Metropolitan Dr. ; West Columbia, SC 29170 ; Toll Free Tel: 800-448-5872; Email: [request info \(\)](mailto:request info ()); Web: www.magic-pak.com

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with**

requirements of Division 1 section on product options and substitutions.

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600 - Product Requirements.

2.2 GAS HEATING/ ELECTRIC COOLING SINGLE PACKAGE VERTICAL UNITS

- A. MGE4 M-Series Model Units: Gas Heating / Electric Cooling Single Package Vertical Units as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.
 - 1. Capacity:

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

- a. Cooling Capacity: 1 ton.
- b. Cooling Capacity: 1-1/2 ton.
- c. Cooling Capacity: 2 ton.
- d. Cooling Capacity: 2-1/2 ton.
- e. Cooling Capacity: 3 ton.
- f. Heating Capacity: 36 kBTUH.
- g. Heating Capacity: 48 kBTUH.
- h. Heating Capacity: 60 kBTUH.
- 2. Construction:
 - a. Certified ANSI/AHRI 390-2003: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.
 - b. Up to 10.6 EER cooling efficiency.
 - c. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No separate venting system.
 - 5) No additional drain pan required
 - d. Pre-wired and pre-charged.
 - e. Individually metered and controlled.
 - f. Easy service access.
 - g. Louver color options to match building facade.
 - h. Internal vent system (direct vent).
- 3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Rifled copper tubing with lanced fin coils.
- 4. Heat Exchanger:

**** NOTE TO SPECIFIER ** Options. Delete material not required.**

- a. Standard aluminized steel tubular heat exchanger.
- b. Upgrade 409 stainless steel heat exchanger.
- 5. Cabinet:
 - a. Galvanized steel cabinet material.
 - b. Fully insulated cabinet for quiet operation.

**** NOTE TO SPECIFIER ** Options. Delete options not required.**

- c. Wall sleeve as scheduled or indicated.
- d. Decorative extruded aluminum louver as scheduled or indicated.
- 6. Blower:
 - a. Four-speed permanently lubricated motor for low maintenance, maximum efficiency and wide airflow range.
 - b. PSC permanently lubricated motor for low maintenance and maximum efficiency.

- c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
- d. Internal washable filter.
- 7. Controls:
 - a. Color coded wiring for easy service.
 - b. Fuse protection on 24V circuit.
- 8. Installation:
 - a. Easy to install and service.
 - b. External utility connections for gas and high and low voltage lines.
 - c. Louver mounts flush to outside wall.
- 9. Warranty:
 - a. 5 year limited warranty on all parts.

**** NOTE TO SPECIFIER ** Delete heat exchanger warranty not required.**

- b. 10 year warranty on aluminized heat exchanger:
- c. 20 year warranty on stainless steel heat exchanger.

B. HWC4 V-Series Standard Efficiency Model Units: Gas Heating / Electric Cooling Single Package Vertical Units as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.

1. Capacity:

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

- a. Cooling Capacity: 1 ton.
- b. Cooling Capacity: 1-1/2 ton.
- c. Cooling Capacity: 2 ton.
- d. Cooling Capacity: 2-1/2 ton.
- e. Heating Capacity: 24 kBTUH.
- f. Heating Capacity: 36 kBTUH.
- g. Heating Capacity: 48 kBTUH.
- h. Heating Capacity: 60 kBTUH.
- 2. Construction:
 - a. Certified ANSI/AHRI 390-2003: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.
 - b. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No separate venting system.
 - 5) No additional drain pan required
 - c. 9.2 EER and 80% TE
 - d. Pre-wired and pre-charged.
 - e. Drain pan is infused with Microban® antimicrobial protection.
 - f. Individually metered and controlled.
 - g. Slide-out cooling section.
 - h. Internal vent system (direct vent).
- 3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Rifled copper tubing with lanced fin coils.
- 4. Heat Exchanger:

**** NOTE TO SPECIFIER ** Options. Delete material not required.**

- a. Standard aluminized steel tubular heat exchanger.
- b. Upgrade 409 stainless steel heat exchanger.
- 5. Cabinet:
 - a. Attractive neutral-toned finish.

**** NOTE TO SPECIFIER ** Options. Delete options not required.**

- b. Wall sleeve as scheduled or indicated.

- c. Optional decorative extruded aluminum louver as scheduled or indicated.
- 6. Blower:
 - a. Multispeed motor for wide airflow range.
 - b. PSC permanently lubricated motor for low maintenance and maximum efficiency.
 - c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
 - d. Internal washable filter.
 - e. Upgrade MERV 8 filter.
- 7. Controls:
 - a. Color coded wiring for easy service.
- 8. Installation:
 - a. Easy to install and service.
 - b. External utility connections for gas and high and low voltage lines.

**** NOTE TO SPECIFIER ** Option. Delete if not required.**

- 9. Warranty:
 - a. 5 year limited warranty on all parts.
- b. 10 year warranty on aluminized heat exchanger.
- c. 20 year warranty on stainless steel heat exchanger.

**** NOTE TO SPECIFIER ** Delete heat exchanger warranty not required.**

C. HWC4 V-Series High-Efficiency Model Units: Gas Heating / Electric Cooling Single Package Vertical Units as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.

1. Capacity:

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

- a. Cooling Capacity: 1 ton.
- b. Cooling Capacity: 1-1/2 ton.
- c. Cooling Capacity: 2 ton.
- d. Cooling Capacity: 2-1/2 ton.
- e. Heating Capacity: 22 kBTUH.
- f. Heating Capacity: 33 kBTUH.
- g. Heating Capacity: 44 kBTUH.
- h. Heating Capacity: 55 kBTUH.
- 2. Construction:
 - a. Certified ANSI/AHRI 390-2003: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.
 - b. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No separate venting system.
 - 5) No additional drain pan required
 - c. Up to 11 EER and 95% TE
 - d. Pre-wired and pre-charged.
 - e. Drain pan is infused with Microban® antimicrobial protection.
 - f. Individually metered and controlled.
 - g. Slide-out cooling section.
 - h. Internal vent system (direct vent).
- 3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Rifled copper tubing with lanced fin coils.
- 4. Heat Exchanger:

**** NOTE TO SPECIFIER ** Options. Delete material not required.**

- a. Standard 409 stainless steel heat exchanger.
- 5. Cabinet:
 - a. Attractive neutral-toned finish.

**** NOTE TO SPECIFIER ** Options. Delete options not required.**

- b. Wall sleeve as scheduled or indicated.
- c. Optional decorative extruded aluminum louver as scheduled or indicated.
- 6. Blower:
 - a. Multispeed motor for wide airflow range.
 - b. Electrically commutated motor (ECM) for maximum efficiency.
 - c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
 - d. Internal washable filter.
 - e. Upgrade MERV 8 filter.
- 7. Controls:
 - a. Color coded wiring for easy service.
- 8. Installation:
 - a. Easy to install and service.
 - b. External utility connections for gas and high and low voltage lines.

**** NOTE TO SPECIFIER ** Option. Delete if not required.**

- 9. Warranty:
 - a. 5 year limited warranty on all parts.

**** NOTE TO SPECIFIER ** Delete heat exchanger warranty not required.**

- b. 20 year warranty on stainless steel heat exchanger.

2.3 ELECTRIC HEATING/ ELECTRIC COOLING SINGLE PACKAGE VERTICAL UNITS

A. MCE4 M-Series Model Units: Electric Heating / Electric Cooling Single Package Vertical Units as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.

1. Capacity:

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

- a. Cooling Capacity: 1 ton.
- b. Cooling Capacity: 1-1/2 ton.
- c. Cooling Capacity: 2 ton.
- d. Cooling Capacity: 2-1/2 ton.
- e. Heating Capacity: 3 kW.
- f. Heating Capacity: 5 kW.
- g. Heating Capacity: 7 kW.
- h. Heating Capacity: 10 kW.
- 2. Construction:
 - a. Certified ANSI/AHRI 390-2003: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.
 - b. Up to 10.4 EER cooling efficiency.
 - c. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No additional drain pan required
 - d. Pre-wired and pre-charged.
 - e. Individually metered and controlled.
 - f. Easy service access.
 - g. Louver color options to match building facade.

**** NOTE TO SPECIFIER ** Options. Delete options not required.**

- h. Optional factory installed ventilation air - up to 5% fresh air.

- i. Provide No Electric Heat design.
- 3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Rifled copper tubing with lanced fin coils.
- 4. Cabinet:
 - a. Fully insulated cabinet for quiet operation.
- 5. Blower:
 - a. Four-speed permanently lubricated motor for low maintenance, maximum efficiency and wide airflow range.
 - b. PSC permanently lubricated motor for low maintenance and maximum efficiency.
 - c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
 - d. Internal washable filter.
- 6. Controls:
 - a. Color coded wiring for easy service.
 - b. Fuse protection on 24V circuit.
 - c. No heat models include 24 V output to control external heat source.
- 7. Installation:
 - a. Easy to install and service.
 - b. Louver mounts flush to outside wall.
 - c. External utility connections high and low voltage lines.
- 8. Warranty:
 - a. 5 year limited warranty on all parts.

**** NOTE TO SPECIFIER ** Options. Delete options not required.**

B. EWC4 V-Series Standard Efficiency Model Units: Electric Heating / Electric Cooling Single Package Vertical Units as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.

- 1. Capacity:
 - a. Cooling Capacity: 1 ton.
 - b. Cooling Capacity: 1-1/2 ton.
 - c. Cooling Capacity: 2 ton.
 - d. Cooling Capacity: 2-1/2 ton.
 - e. Heating Capacity: 5 kW.
 - f. Heating Capacity: 7 kW.
 - g. Heating Capacity: 10 kW.
 - h. Heating Capacity: 15 kW.
 - i. .
- 2. Construction:
 - a. Certified ANSI/AHRI 390-2003: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.
 - b. 9.2 EER
 - c. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No additional drain pan required
 - d. Pre-wired and pre-charged.
 - e. Drain pan infused with Microban® antimicrobial protection
 - f. Individually metered and controlled.
 - g. Slide-out cooling section.

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Riffled copper tubing with lanced fin coils.
4. Cabinet:
 - a. Attractive, neutral-toned finish.

**** NOTE TO SPECIFIER ** Options. Delete options not required.**

- b. Wall sleeve as scheduled or indicated.
 - c. Decorative extruded aluminum louver as scheduled or indicated.
5. Blower:
 - a. Multispeed motor for wide airflow range.
 - b. PSC permanently lubricated motor for low maintenance and maximum efficiency.
 - c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
 - d. Internal washable filter.
 - e. Upgrade MERV 8 filter.
6. Controls:
 - a. Color coded wiring for easy service.
7. Installation:
 - a. Easy to install and service.

**** NOTE TO SPECIFIER ** Option. Delete if not required.**

- b. External utility connections high and low voltage lines.
8. Warranty:
 - a. 5 year limited warranty on all parts.

C. EWC4 V-Series High Efficiency Model Units: Electric Heating / Electric Cooling Single Package Vertical Units as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.

1. Capacity:

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

- a. Cooling Capacity: 1 ton.
 - b. Cooling Capacity: 1-1/2 ton.
 - c. Cooling Capacity: 2 ton.
 - d. Cooling Capacity: 2-1/2 ton.
 - e. Heating Capacity: 5 kW.
 - f. Heating Capacity: 7 kW.
 - g. Heating Capacity: 10 kW.
 - h. Heating Capacity: 15 kW.
 - i. .
2. Construction:
 - a. Certified ANSI/AHRI 390-2003: Performance Rating of Single Package Vertical Air-Conditioners and Heat Pumps.
 - b. Up to 11 EER
 - c. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No additional drain pan required
 - d. Pre-wired and pre-charged.
 - e. Drain pan is infused with Microban® antimicrobial protection
 - f. Individually metered and controlled.
 - g. Slide-out cooling section.
3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Riffled copper tubing with lanced fin coils.

4. Cabinet:
 - a. Attractive, neutral-toned finish.
- ** NOTE TO SPECIFIER ** Options. Delete options not required.**
- b. Wall sleeve as scheduled or indicated.
 - c. Decorative extruded aluminum louver as scheduled or indicated.
5. Blower:
 - a. Multispeed motor for wide airflow range.
 - b. PSC permanently lubricated motor for low maintenance and maximum efficiency.
 - c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
 - d. Internal washable filter.
 - e. Upgrade MERV 8 filter.
 6. Controls:
 - a. Color coded wiring for easy service.
 7. Installation:
 - a. Easy to install and service.
- ** NOTE TO SPECIFIER ** Option. Delete if not required.**
- b. External utility connections high and low voltage lines.
8. Warranty:
 - a. 5 year limited warranty on all parts.

2.4 ELECTRIC HEAT PUMP SINGLE PACKAGE VERTICAL UNITS

- A. MHP4 M-Series Model Units: Electric Heat Pump as manufactured by Allied Air Enterprises LLC, A Lennox International Inc. Company.

1. Capacity:

**** NOTE TO SPECIFIER ** Delete capacity for heating and cooling not required.**

 - a. Cooling Capacity: 1 ton.
 - b. Cooling Capacity: 1-1/2 ton.
 - c. Cooling Capacity: 2 ton.
 - d. Cooling Capacity: 2-1/2 ton.
 - e. Cooling Capacity: 3 ton.
 - f. Heating Capacity: 3 kW.
 - g. Heating Capacity: 5 kW.
 - h. Heating Capacity: 7 kW.
 - i. Heating Capacity: 10 kW.
2. Construction:
 - a. Up to 10.4 EER cooling efficiency.
 - b. 3.0 COP.
 - c. Completely self-contained heating and cooling package.
 - 1) No outside condensing unit.
 - 2) No external refrigerant lines.
 - 3) No separate cooling coil.
 - 4) No additional drain pan required
 - d. Pre-wired and pre-charged.
 - e. Individually metered and controlled.
 - f. Easy service access.
 - g. Louver color options to match building facade.

**** NOTE TO SPECIFIER ** Option. Delete if not required.**

 - h. Optional factory installed ventilation air - up to 5% fresh air.
3. Refrigerant System:
 - a. R410-A Refrigerant.
 - b. Rifled copper tubing with lanced fin coils.

4. Cabinet:
 - a. Fully insulated cabinet for quiet operation.
- ** NOTE TO SPECIFIER ** Options. Delete options not required.**
- b. Wall sleeve as scheduled or indicated.
 - c. Decorative extruded aluminum louver as scheduled or indicated.
 5. Blower:
 - a. Four-speed permanently lubricated motor for low maintenance, maximum efficiency and wide airflow range.
 - b. PSC permanently lubricated motor for low maintenance and maximum efficiency.
 - c. Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.
 - d. Internal washable filter.
 6. Controls:
 - a. Color coded wiring for easy service.
 - b. Fuse protection on 24V circuit.
 7. Installation:
 - a. Easy to install and service.
 - b. Louver mounts flush to outside wall.
 - c. External utility connections high and low voltage lines.
 8. Warranty:
 - a. 5 year limited warranty on all parts.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until wall openings and rough-in have been properly prepared.
- B. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Prepare conditions using the methods recommended by the manufacturer for achieving the best result for the operation under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions. Test for proper operation and adjust as required until satisfactory results are obtained.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION