

RESEARCH & DEVELOPMENT DEPARTMENT

R&D DEPARTMENT PRINTED MATERIAL

NOTE:

WHEN PRINTED MATERIAL IS RECEIVED ON THIS PART NUMBER, CHECK THAT THE REVISION IS CORRECT AND THAT ANY SPECIAL INSTRUCTIONS LISTED BELOW WERE FOLLOWED.

THE 2D DATA MATRIX AND THE MANUFACTURES PART NUMBER ARE TO BE PRINTED ON I&O COVER SHEET. SEE ADS-104669-01 FOR DATA MATRIX SPECIFICATIONS.

SPECIAL INSTRUCTIONS

(3) 5/16" DIA. HOLES (TO FIT 3-RING BINDER) REQUIRED ALONG LEFT EDGE OF BOOKLET

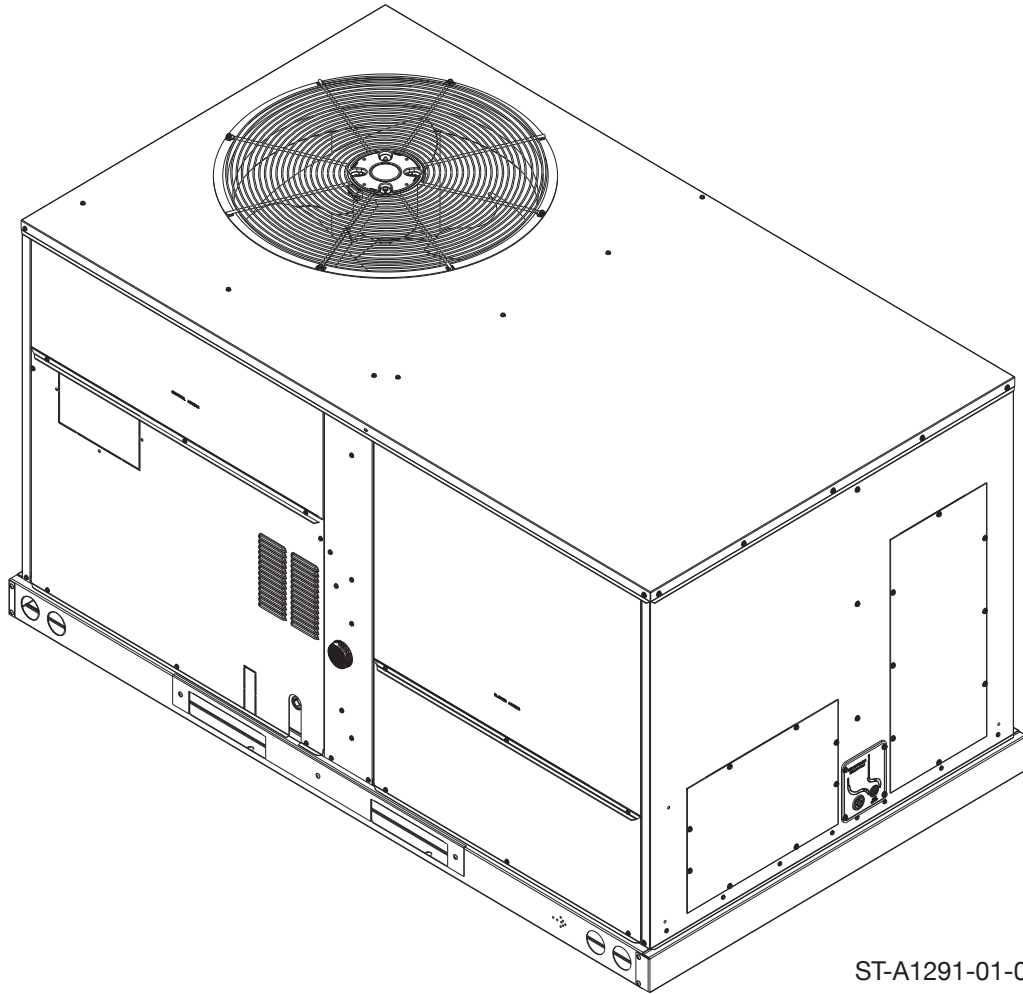
(3) 5/16" DIA. HOLES (TO FIT 3-RING BINDER) REQUIRED ALONG LEFT EDGE OF BOOKLET

CHECKED BY:	APPROVED BY:	RELIAB. ENGR.:	VENDOR APPROVAL:	DR. BY: V.YAN DATE: 2/8/2024	ORIGINAL RELEASE No.: 115698	MATERIAL:
INSTALLATION INSTRUCTIONS FOR RGEC with R-454B (A2L)					PART NO. 92-106691-05	REV. 01

INSTALLATION INSTRUCTIONS

FOR RENAISSANCE™ PACKAGED GAS ELECTRIC UNITS

(-)GEC SERIES 3.0, 4.0, 5.0 & 6.0 TON [10.6, 14.1, 17.6 & 21.1 KW]
60 HZ MODELS
WITH R-454B REFRIGERANT



ST-A1291-01-01

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DO NOT DESTROY THIS MANUAL. PLEASE READ CAREFULLY AND KEEP
IN A SAFE PLACE FOR FUTURE REFERENCE BY A SERVICEMAN.



RECOGNIZE THIS SYMBOL AS AN INDICATION OF IMPORTANT SAFETY INFORMATION!

⚠ WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS UNIT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE, POSSIBLY RESULTING IN FIRE, ELECTRICAL SHOCK, CARBON MONOXIDE POISONING, EXPLOSION, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

⚠ WARNING

PROPOSITION 65 WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

DO NOT DESTROY THIS MANUAL. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE BY A SERVICEMAN.

BA001-02

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A. IMPORTANT SAFETY AND GENERAL INFORMATION

A.1. Introduction

This booklet contains the installation and operating instructions for your 3 ton, 4 ton, 5 ton, or 6 ton combination gas heating/electric cooling unit.

There are some precautions that should be taken to ensure proper operation. Improper installation can result in unsatisfactory operation or dangerous conditions.

Read this booklet and any instructions packaged with separate equipment required to make up the system prior to installation. Give this booklet to the owner and explain its provisions. The owner should retain this booklet for future reference.

The images contained within this document may not be an exact representation of every unit, accessory, installation, etc. We reserve the right to change the content of this document at any time.

⚠ WARNING: The manufacturer's warranty does not cover any damage or defect to the air conditioner caused by the attachment or use of any components, accessories or devices (other than those authorized by the manufacturer) into, onto or in conjunction with the air conditioner.

You should be aware that the use of unauthorized components, accessories or devices may adversely affect the operation of the air conditioner and may also endanger life and property. The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorized components, accessories or devices.

A.2. Agency Performance Audit and Efficiency Testing Notice

NOTICE: BREAK-IN PERIOD

Prior to agency testing, run the compressor for 16 hours at 115°F outdoor ambient temperature and 80° dry bulb / 75° wet bulb indoor ambient temperature.

NOTICE: EFFICIENCY TESTING NOTICE

For purposes of verifying or testing efficiency ratings, the test procedure in title 10 Appendix M1 to Subpart B of Part 430 (Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps) and the clarifying provisions provided in the standards listed below that were applicable at the date of manufacture should be used for test set up and performance.

SETUP:

- ASHRAE 37 – 2009 (RA 2019)

PERFORMANCE:

- ANSI/ASHRAE 90.1 – 2022
- ANSI/ASHRAE 103 (2022)
- AHRI Operations for Unitary Small AC Equipment 210/240 (2023) for 3–5T
- AHRI Operations for Unitary Large AC Equipment 340/360 (2022) for 6T
- CSA/ANSI Z21.47 (2021)

SAFETY:

- UL 60335–2–40 4th Edition
- CSA/ ANSI Z21.47 (2021)
- CSA C22.2 No. 60335–2–40 4th Edition

QUALITY:

- ISO 9001: 2015

A.3. Importance of a Quality Installation

Optimal system performance and longevity depend upon a quality and proper installation. Failure to properly setup and commission this unit could result in undesirable operation and subsequent faults and potential failures.

Carefully follow all guidelines listed in the manual and industry best practices. Conform to all local code requirements. Contact your local technical representative with any questions or concerns.

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment must be on site. A dry powder CO2 fire extinguisher must be near the charging area at all times during installation, commissioning, service, and decommissioning.

A. IMPORTANT SAFETY AND GENERAL INFORMATION

A.3.1. Working Personnel Qualifications

Every installation, maintenance, service, and repair working procedure must be conducted by qualified personnel who have been trained in operating and servicing units that employ flammable refrigerants such as R-454B.

Examples of working procedures include but are not limited to:

- Breaking into the refrigeration circuit
- Opening sealed components
- Opening ventilated enclosures

This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

A.4. Importance of Air Flow and Setup

Optimal system performance is also dependent upon having the ideal airflow across the condensing and evaporating coils, and upon matching the charge weight to the manufacturer's spec for the unit. Improper or restricted air flow, and incorrect charge weight, will hinder the performance of the unit. Please refer to the manufacturer's recommended clearances for setting the unit and the included guide for setting air flow. Refer to the rating plate for the charge weight.

A.5. Checking Product and Inspection

Upon receiving the unit, inspect it for any damage from shipment. Claims for damage, either shipping or concealed, should be filed immediately with the shipping company.

IMPORTANT: Check the unit model number, heating size, electrical characteristics, and accessories to determine if they are correct.

B. GENERAL SPECIFICATIONS

B.1 Safety Warnings

⚠ WARNING: Use only with type of gas approved for this unit. Refer to the unit rating plate.

⚠ WARNING: Install this unit only in a location and position as specified in the location requirements and considerations section of these instructions. Provide adequate combustion and ventilation air to the unit space as specified in the venting section of these instructions.

⚠ WARNING: Provide adequate combustion and ventilation air to the unit space as specified in the combustion and ventilation air section of these instructions.

⚠ WARNING: Combustion products must be discharged outdoors. Refer to local building codes for ducting combustion exhaust.

⚠ WARNING: Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections, as specified in gas supply and piping section of these instructions.

⚠ WARNING: Always install unit to operate within the unit's intended temperature-rise range with a duct system which has an external static pressure within the allowable range, as specified in ducting section of these instructions. See also unit rating plate.

⚠ WARNING: When a unit is installed so that supply ducts carry air circulated by the unit to areas outside the space containing the unit, the return air shall also be handled by duct(s) sealed to the unit casing and terminating outside the space containing the unit.

⚠ WARNING: This unit may be used to heat the building or structure during construction if the following installation requirements are met. Installation must comply with all installation instructions including:

- Furnace operating under thermostatic control;
- Return air duct sealed to the furnace;
- Air filters in place;
- Set furnace input rate and temperature rise per rating plate marking;
- Return air temperature maintained between 55°F (13°C) and 80°F (27°C);
- Clean furnace, duct work and components upon substantial completion of the construction process, and verify furnace operating conditions including ignition input rate, temperature rise and venting, according to the instructions.

B. GENERAL SPECIFICATIONS

B.1 Safety Warnings

⚠️WARNING: The manufacturer's warranty does not cover any damage or defect to the air conditioner caused by the attachment or use of any components, accessories or devices (other than those authorized by the manufacturer) into, onto or in conjunction with the air conditioner. You should be aware that the use of unauthorized components, accessories or devices may adversely affect the operation of the air conditioner and may also endanger life and property. The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorized components, accessories or devices.

⚠️WARNING: Disconnect all power to the unit before starting maintenance. Failure to do so can result in severe electrical shock or death.

⚠️WARNING: Do not, under any circumstances, connect return ductwork to any other heat producing device such as a fireplace insert, stove, etc. Unauthorized use of such devices may result in fire, carbon monoxide poisoning, explosion, property damage, severe personal injury or death.

⚠️WARNING: The unit must be permanently grounded. Failure to ground this unit can result in fire or electrical shock causing property damage, severe personal injury or death..

⚠️DANGER: Risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.

⚠️WARNING: Risk of fire or explosion. Dispose of properly in accordance with Federal Or Local Regulations. Flammable refrigerant used.

⚠️DANGER: Risk of fire or explosion. Flammable refrigerant used. Consult the repair manual/owner's guide before attempting to service this product. All safety precautions must be followed.

⚠️DANGER: Risk of fire or explosion due to flammable refrigerant used. Follow handling instructions carefully in compliance with National Regulations.

⚠️WARNING: Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

⚠️WARNING: The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater).

⚠️WARNING: Do not pierce or burn.

⚠️WARNING: Be aware that refrigerants may not contain an odor.

⚠️WARNING: If this unit is connected via an air duct system to one or more rooms with an area less than the specified minimum area, that room shall be without continuously operating flames or other potential ignition sources. See **Appendix F – A2L Refrigerant Installation Safety Data**.

⚠️WARNING: Auxiliary devices which may be a potential ignition source shall not be installed in the ductwork.

⚠️WARNING: If this unit is connected via duct to one or more rooms, only auxiliary devices approved by the manufacturer that are declared suitable with A2L refrigerants shall be installed in the connecting ductwork.

⚠️WARNING: Appliance shall be installed, operated, and stored in a room with a floor area larger than 'X'm². See **Appendix F – A2L Refrigerant Installation Safety Data**.

⚠️WARNING: If this unit is connected via duct to one or more rooms, only auxiliary devices approved by the manufacturer that are declared suitable with A2L refrigerants shall be installed in the connecting ductwork.

B. GENERAL SPECIFICATIONS

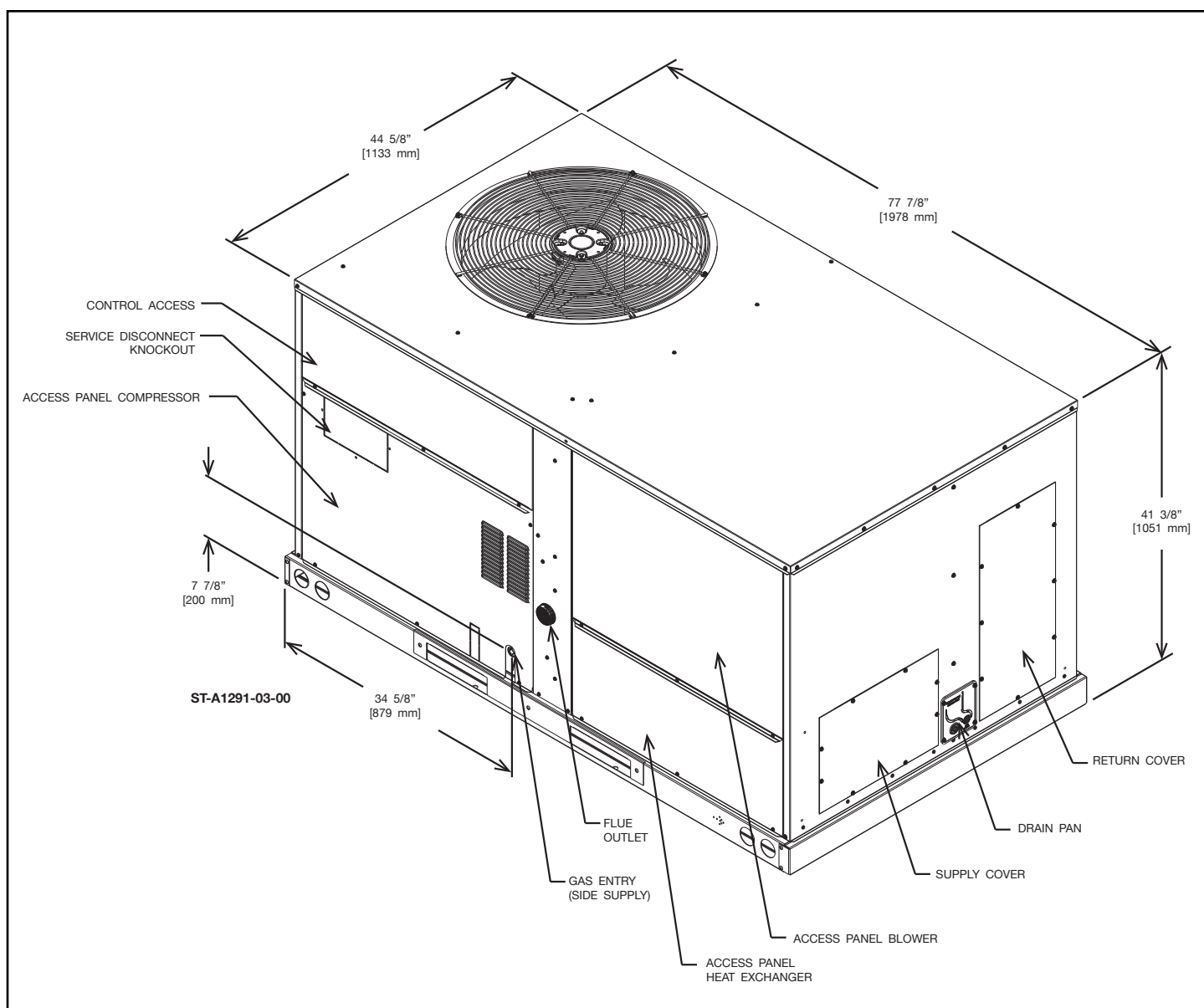
B.2. Major Components

The unit includes a hermetically-sealed refrigerating system consisting of a scroll compressor, condenser coil, evaporator coil with TXV, a circulation air blower, a condenser fan, a heat exchanger assembly, gas burner and control assembly, combustion air motor and fan, and all necessary internal electrical wiring. The cooling system of these units is factory evacuated, charged, and performance tested. Refrigerant amount and type are indicated on rating plate.

B.3. Product Data Information

B.3.1. Dimensional Information

IMPORTANT: This unit must be mounted level in both directions to allow water to drain from the condenser section and condensate pan.

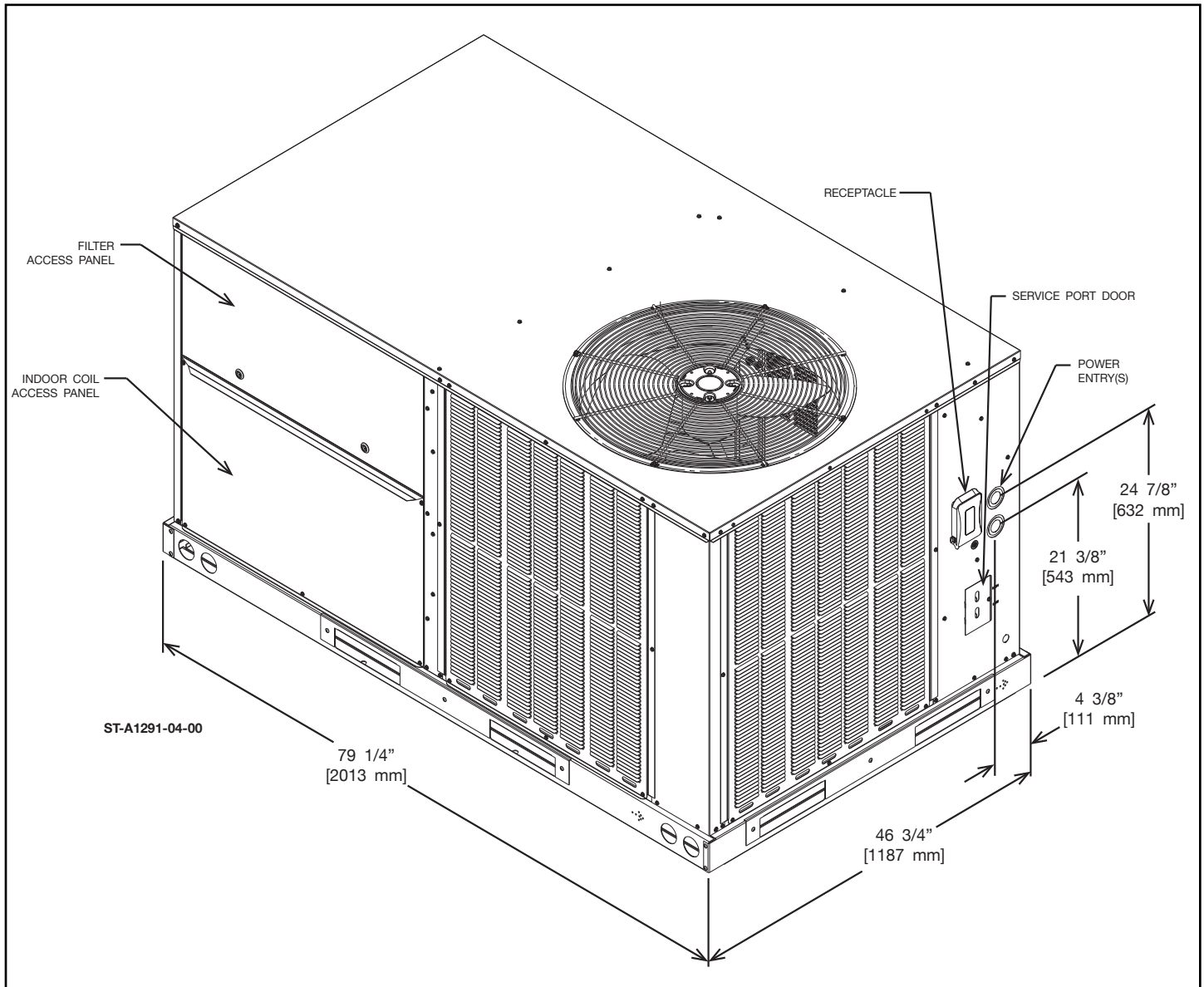


B. GENERAL SPECIFICATIONS

B.3. Product Data Information

B.3.1. Dimensional Information (Cont.)

IMPORTANT: This unit must be mounted level in both directions to allow water to drain from the condenser section and condensate pan.



B.3.2. Product Specifications

The combination Gas Heating/Electric cooling rooftop unit is available in 75,000, 100,000, or 120,000 BTUH heating input. Cooling capacity is 3.0, 4.0, 5.0, and 6.0 nominal tons. Units are convertible from downflow supply/return to sideflow supply/return by relocation of supply/return cover panels. See section **C.3.5. Cover Panel Installation/Conversion Procedure** for more details.

The units are weatherized for mounting outside of the building.

⚠ WARNING: Units are not design certified to be installed inside the structure. Doing so can cause inadequate unit performance as well as property damage and carbon monoxide poisoning resulting in personal injury or death.