

Technical Guide: PG3 Ultra-Low NOx Series - 208 V/230 V - 3 Phase

13.4 SEER2 R-454B Packaged Air Conditioner with Gas Heat



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About the PG3 ULN unit

These packaged cooling and heating ultra-low NO_x (ULN) air conditioners are designed for outdoor installation. Only utility and duct connections are required at the point of installation.

Due to continuous product improvement, specifications are subject to change without notice. **This document is only for distribution use - it is not to be used at point of retail sale.**

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Certification



Assembled at a facility with
an ISO 9001:2015-certified
Quality Management
System



Warranty summary

20-year warranty on the gas heat exchanger in residential applications and 10-year warranty on the gas heat exchanger in commercial applications. Standard 1-year warranty for parts. Standard 5-year warranty for the compressor. Refer to the limited warranty certificate in the *User's Information Manual* for details.

Features

- **Operating efficiency:** All PG3 ULN units provide a minimum AFUE of 81.0% in heating and 13.4 SEER2 rating for cooling operation. All models meet California requirements of 14 ng/J NO_x emission level for Air Quality Management Districts.
- **On-site flexibility:** All model sizes use a compact design cabinet in one of two footprints. This provides installer flexibility for placing the correct capacity unit on roof curbs or equipment pads or concrete slabs with the smallest footprint after the internal load has been determined. Field-convertible duct connections from side shot to down shot allow the installer to have greater flexibility with less inventory.
- **Lower installation cost:** Installation time and costs are reduced by easy power wiring and control wiring connections. The small base dimension means less space is required on the ground or roof. All units are completely wired, charged with R-454B, and tested before shipment. Test stations using a state-of-the-art computerized process system are used to ensure product quality. Refrigerant charge and component part numbers are verified using computers during assembly. Vital run test statistics such as system pressure, motor currents, and gas system safeties are monitored and recorded by the system to ensure unit performance. Equal size side supply and return duct connections allow easy connection of ducts to match low crawl spaces without transition pieces.
- **Utility connections made easy:** Gas and electric utility access is provided through the bottom or the side of the unit. Utility connections can be made quickly and with a minimum amount of field labor. A field-supplied electrical disconnect switch must be field installed.

- **Convertible airflow design:** The bottom duct openings are covered when they leave the factory, ready to be used for a side supply and side return application. If a bottom supply and bottom return application is required, remove the two panels from the bottom of the unit and place them in the side supply and side return duct openings. No panel cutting is required and no accessory panel is necessary. The convertible airflow design allows for maximum field flexibility and minimum inventory.
- **Condensate pan:** A corrosion-resistant, long-lasting, watertight pan is positioned below the indoor coil to collect and drain all condensate, preventing build-up of stagnant condensate. The condensate pan conforms to ASHRAE 62-19 standards - Ventilation for Acceptable Indoor Air Quality.
- **Condensate drain:** The 3/4 in. NPT female connection is rigidly mounted to ensure correct fit and a leaktight seal.
- **Durable finish:** The cabinet is made of G90 galvanized steel with a powder paint coating for appearance and protection. The pre-treated galvanized steel provides a better paint-to-steel bond, which resists corrosion and rust creep. The powder paint finish ensures less fading when exposed to sunlight, and provides superior corrosion resistance. The powder paint finish is 1,000 h salt spray tested.
- **Full perimeter base rails:** The easily removable base rails provide a solid foundation for the entire unit and protect the unit during shipment. The rails provide forklift access from all sides, and rigging holes are also provided so an overhead crane can be used to place the units on a roof. On applications where the unit is placed on an equipment pad, the base keeps the unit off the equipment pad to deter corrosion. On applications where height is limited, the base rails can be removed by removing two screws in each corner.
- **Attractive appearance:** The single-piece top cover contains a top-discharge outdoor fan arrangement. The one-piece design adds greater water integrity. Rounded corners with water drip edges add to the attractive appearance.
- **Top discharge:** The top-discharge outdoor fan does not disrupt neighboring areas or dry out vegetation surrounding the unit. The warm air from the top-mounted fan is blown up and away from the structure and any landscaping.
- **Outdoor coil grille:** All models use a stamped slotted design that provides superior impact protection against small objects during transit and after installation.
- **Low operating sound level:** The upward airflow carries the normal operating noise up and away from the living area. The rigid top panel effectively isolates noise. The isolator mounted compressor and the louvered fins of the outdoor coils muffle the normal fan motor and compressor operating sounds. The unique formed base pan also aids in sound attenuation with its structural design. This design strategically places embossments in the pan for optimum strength and rigidity.
- **Fan system:** All models operate over a wide range of design conditions with a standard ECM indoor blower motor. These units easily suit all types of applications and provide greater on-site flexibility to meet comfort requirements. The cooling and heating speeds are factory set at test design conditions but can be field adjusted. This allows for maximum comfort capabilities.
- **Simple control circuit:** A low-voltage gas heat printed circuit board contains a status and diagnostic indicator light. Units that contain more than 1.776 kg (3.915 lb) of refrigerant have a factory installed refrigerant detection system (RDS). For RDS models, a refrigerant leak detection sensor connects to the RDS control board and field thermostat wiring connects to the RDS screw terminals. For non-RDS models, field thermostat wiring connects to color-coded leads using twist-on wire connections. Cooling controls use contactor and relays for simple application and troubleshooting. MATE-N-LOK plug connectors are used. The electrical control box is not located in the compressor compartment. The controls are mounted to allow removal of the separate access panel for troubleshooting and maintenance without affecting the normal system operating pressures. All wiring internal to the unit is color-coded and numbered.
- **Protected compressor:** The compressor is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of a high-pressure relief valve and a temperature sensor, which protects the compressor if unsuitable operating conditions occur.

- **High-pressure switch:** A high-pressure switch is standard in all units. It is an automatic reset switch. When discharge pressure reaches 650 psig, the compressor de-energizes until pressure reaches 450 psig.
- **Exclusive coil design:** The enhanced aluminum microchannel tubes and aluminum louvered fin construction of the outdoor coils improve heat transfer for maximum efficiency and durability. The indoor tube and fin coil has all aluminum construction for reliability and efficient heat transfer.
- **Gas heat exchanger:** The high-grade stainless steel gas heat exchanger provides long-life, trouble-free operation. For residential applications, the gas heat exchanger is offered with a 20-year warranty. For commercial applications, the gas heat exchanger is offered with a 10-year warranty.
- **Post-purge induced draft combustion:** This exhausts combustion products from the gas heat exchanger upon completion of the heating cycle to prolong the gas heat exchanger life.
- **Spark to burner ignition:** No pilot assembly is required, which provides more consistent ignition in gas heating mode. This ignition is highly reliable and durable and eliminates nuisance lockouts.
- **Premix burner:** No field adjustment is required to mix the air and gas for natural gas. The burner is constructed of high-grade corrosion-resistant, stainless steel. The burner is for only natural gas applications.
- **Low maintenance:** Long-life, permanently lubricated indoor blower motor bearings and outdoor fan motor bearings need no annual maintenance, adding greater reliability to the unit. The slide-out blower assembly and indoor coil assembly can be easily removed for cleaning.
- **Easy service access:** Individual access panels provide access to all major components, for example, the electrical and gas controls, compressor, and blower, making servicing easy. Removing these panels allows easy removal of components such as the blower assembly for maintenance and troubleshooting.
- **Replacement parts:** The installer requires no special training to replace any of the components of these units. The number of new components has been reduced to minimize the inventory of unique parts.
- **Air filter frame kit:** All three-phase units include an air filter frame kit, which is shipped inside the unit from production. Field installation is required.
- **Air filters:** All three-phase units include an applicable number of 1 in. permanent air filters, which are shipped inside the unit from production. Field installation is required. Two air filters are required for A base units. Three air filters are required for B base units.

Model number nomenclature

Table 1: Model nomenclature description

Number	Category	Option	Description
1, 2	Model type	PG	Packaged air conditioner with gas heat
		PD	Packaged heat pump with gas heat
		PC	Packaged air conditioner with optional electric heat
		PH	Packaged heat pump with optional electric heat
3	Efficiency	3	13.4 SEER2
		5	15.2 SEER2
4	Refrigerant	E	R-454B
5, 6	Nominal capacity (Btu/h x 1000)	24	24,000 Btu/h or 2 ton
		30	30,000 Btu/h or 2.5 ton
		36	36,000 Btu/h or 3 ton
		42	42,000 Btu/h or 3.5 ton
		48	48,000 Btu/h or 4 ton
		60	60,000 Btu/h or 5 ton
7	Heat type	L	Low NOx <40ng/J
		U	ULNx <14ng/J
		N	Electric heat
8, 9	Gas heating input (Btu/h x 1000)	05	50,000 Btu/h
		06	65,000 Btu/h
		07	75,000 Btu/h
		10	100,000 Btu/h
		12	125,000 Btu/h
		00	Electric heat
10	Control strategy	C	Communicating
		B	Wireless, communicating
		S	Standard, conventional
		W	Wireless, conventional
11	Voltage (V-phase-Hz)	2	208/230-1-60
		3	208/230-3-60
		4	460-3-60
12	Generation	1	First generation
		2	Second generation
		3	Third generation
		4	Fourth generation
13	Style	A	Style A
		B	Style B
		C	Style C
		D	Style D

Model number nomenclature example

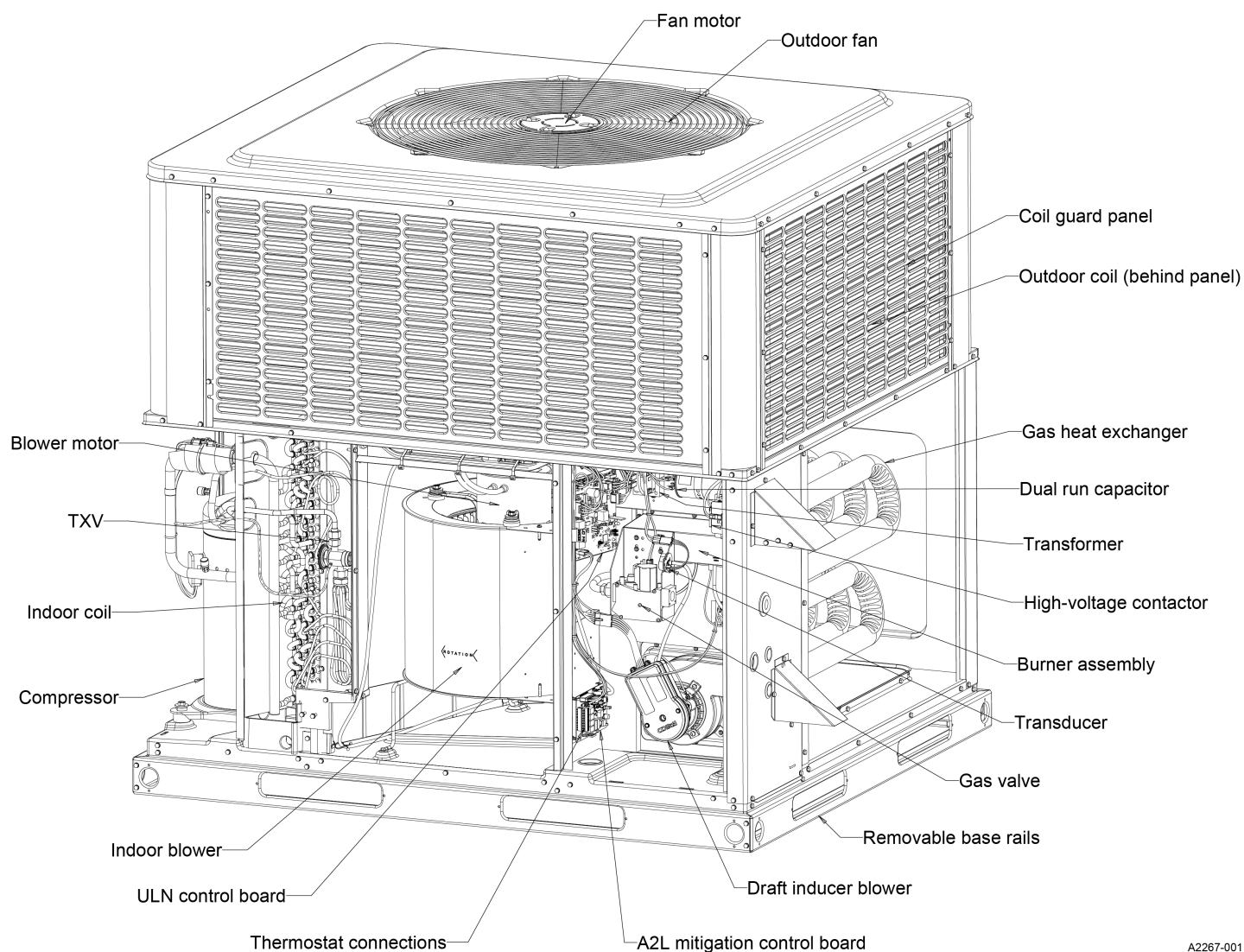
Table 2: Model number nomenclature example

Number	1, 2	3	4	5, 6	7	8, 9	10	11	12	13
Option	PG	3	E	36	U	05	S	3	1	A

The PG3E36U05S31A model is a packaged air conditioner with gas heat. It has a 13.4 SEER2 efficiency rating and uses R-454B refrigerant. It has a nominal capacity of 36,000 Btu/h or 3 ton for cooling. It produces <14ng/J Low NOx emissions and has a gas heating input of 50,000 Btu/h. It uses a standard control strategy and voltage of 208 V/230 V, three phase, 60 Hz. It is a first generation, style A model.

Unit components

Figure 1: Unit components



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- ❗ **Note:** PG3E36 ULN units do not require an RDS, so they do not include an A2L mitigation control board as shown in [Unit components](#). PG3E48 and PG3E60 ULN units include an A2L sensor and a mitigation control board because they contain over 1.776 kg (3.915 lb) of refrigerant and require an RDS.

Unit limitations

Table 3: Unit limitations

Model	Voltage (V-phase-Hz)	Unit limitations		
		Applied voltage (V)		Outdoor DB temperature (°F)
		Minimum	Maximum	Maximum
PG3E36U05S3	208/230-3-60	187	252	125
PG3E48U06S3	208/230-3-60	187	252	125
PG3E60U06S3	208/230-3-60	187	252	125

Application limitations

Table 4: Application limitations

Model	Air temperature at outdoor coil (°F)		Air temperature at indoor coil (°F)	
	Minimum	Maximum	Minimum	Maximum
	DB cool	DB cool	WB cool	WB cool
PG3E36U05S3	55	125	57	72
PG3E48U06S3				
PG3E60U06S3				

Accessories

- **Anchor bracket kit (S1-1HK0601):** This kit firmly anchors PG*, PC*, PH*, and PD* packaged units to an equipment pad or support structure. When correctly installed, the kit is approved for ground-mounted or roof-mounted applications, wind load certified, and listed with the State of Florida. See <https://floridabuilding.org> for this listing.
- **Flue exhaust extension kit (S1-1FE0422):** The purpose of this kit is to divert flue gas up and away from walkways or fresh air intakes. Use the kit when installing PG* or PD* packaged units if required.
- **Economizer for downflow applications (S1-2EE04720024, S1-2EE04720124):** The modulating integrated economizer provides simultaneous operation between the mechanical cooling and economizer operation. The independent blade design ensures correct control and less than 1% leak rate. The economizer includes a hood and mesh bird screen filter integrated into the hood, a dry bulb sensor, and a barometric relief damper. Separate field accessories of single or dual enthalpy kits are also available.
- **Economizer for horizontal applications (S1-2EE04720224, S1-2EE04720324):** The modulating integrated economizer provides simultaneous operation between the mechanical cooling and economizer operation. The independent blade design ensures correct control and less than 1% leak rate. The economizer includes a hood and mesh bird screen filter integrated into the hood and a dry bulb sensor. Separate field accessories of single enthalpy and dual enthalpy are available.
- **Barometric relief hood (S1-1RD1201):** Used in conjunction with a horizontal economizer, the barometric relief hood helps to equalize the building pressure that is caused by the fresh air introduced through the economizer fresh air hood.
- **Single or dual enthalpy sensor (S1-HE-69630NS-2D):** This sensor replaces the supply air temperature dry bulb sensor provided as standard in the economizer kit. The sensor enables improved economizer operation by sensing the dry bulb temperature of indoor supply air plus the enthalpy content of the outdoor air.
- **Duct or unit mount CO₂ kit (S1-2AQ04700924):** This sensor kit detects CO₂ levels automatically and overrides the economizer when CO₂ levels rise above the preset limits.
- **Wall mount CO₂ kit (S1-2AQ04701024):** This sensor kit detects CO₂ levels automatically and overrides the economizer when CO₂ levels rise above the preset limits.
- **Supply air temperature sensor kit (S1-TE-63616E-2D):** This outdoor supply air temperature sensor kit is used with economizers.
- **Air filter frame kit (S1-1FF0602, S1-1FF0601), provided:** This kit contains the necessary hardware to field install return air filters into the base unit. The air filter rack is suitable for 1 in. air filters or 2 in. air filters.
- **Air filter (S1-02647812000):** Permanent 1 in. air filter. Two air filters are required for A base units. Three air filters are required for B base units. Permanent air filters are included inside shipped units for field installation.
- **Motorized fresh air damper (S1-2MD04706224, S1-2MD04706124):** Designed for duct mounted side supply and return and unit mounted down supply and return applications. The damper is capable of providing 0% to 50% of outdoor air and is field supplied. The damper closes on power loss and includes a hood and screen assembly.
- **Rectangle to round (horizontal) adapter (S1-1AK0110, S1-1AK0111):** This kit includes one supply and one return air rectangle to round duct adapter. Adapters are preformed and designed to fit over current horizontal duct openings on the base unit. The transition is from rectangle to 12 in. round for the 1AK0110 kit and from rectangle to 14 in. round for the 1AK0111 kit.
- **Rectangle to round (downflow) adapter (S1-1AK0108, S1-1AK0109):** This kit includes one supply and one return air rectangle to round duct adapter. Adapters are preformed and designed to fit into current downflow duct openings on the roof curb. The transition is from rectangle to 16 in. round for the 1AK0108 kit and from rectangle to 18 in. round for the 1AK0109 kit.

- **Roof curbs (S1-1RC0503, S1-1RC0501):** NRCA approved roof curbs provide a correct fit to the base unit for rooftop installations. The roof curbs are designed to be assembled through hinge pins in each corner. The kit also provides seal strip to ensure an airtight seal. These are 8 in. high roof curbs.
- **Roof curbs (S1-1RC0504, S1-1RC0502):** NRCA approved roof curbs provide a correct fit to the base unit for rooftop installations. The roof curbs are designed for assembly through hinge pins in each corner. The kit also provides seal strip to ensure an airtight seal. These are 14 in. high roof curbs.
- **Transition curb kits (S1-1TC01*):** These adapter kits allow field use of existing installed roof curbs, matching the PC3 footprint to Affinity roof curbs or Carrier, Trane, or Goodman roof curbs. Roof curb adapters are optional for current generation Carrier replacements, but are recommended for previous generation applications. Refer to the *Price Pages* for more details.
- **Manual outdoor damper (S1-1FA1202, S1-1FA1201):** The damper provides 0% to 50% outdoor air capability and is field adjustable. The damper is designed for duct mounted side supply and return applications and unit mounted down supply and return applications. The damper includes a hood and screen assembly.
- **Loss of charge switch (S1-2LC00024):** This kit provides a loss of charge switch and wiring to provide safe shutdown of the compressor.
- **Low ambient kit (S1-2LA06701024):** This kit provides the necessary hardware to convert the unit to operate in cooling cycle down to 0°F. Standard unit operation is 55°F.
- **Base rail hole cover kit (S1-1HC0101):** This kit provides the necessary hardware to close off openings in the base rails, for example, to prevent animals from entering.
- **Thermostat:** Compatible thermostat controls are available through accessory sourcing. For optimum performance, these outdoor units are fully compatible with our residential Hx™ Touch Screen Thermostat available through Source 1. For more information, refer to the *Thermostats & Controllers* section at www.simplygettingthejobdone.com.
- **Wall thermostat:** The units are designed to operate with standard, 24 V electronic non power-stealing electronic thermostats. All units can operate with single-stage heat and single-stage cool thermostats with or without the economizer.

① **Note:** For additional kit numbers, refer to the *Price Pages*.

Guide specifications

Units shall be assembled at a facility with an ISO 9001:2015-certified Quality Management System. PG3 ULN units are compliant with SCAQMD Rule 1111 for the reduction of NOx emissions. These packaged cooling and heating air conditioners are designed for outdoor installation. Only utility and duct connections are required at the point of installation. The single-stage gas-fired heating section shall have a stainless steel tubular gas heat exchanger and spark to burner ignition.

Description

Units shall be factory-assembled, single-packaged, electric cooling/gas heating units, designed for outdoor installation. For SEER2 ratings, refer to the technical literature. They shall have built-in, equal size, field convertible duct connections for downflow supply and return or horizontal supply and return. The units shall be factory wired, piped, charged with R-454B refrigerant, and factory tested before shipment. All unit wiring shall be both numbered and color-coded. All models shall be rated in accordance with DOE and AHRI test procedures for heating and cooling operation. Units shall be CSA listed and classified to CSA/ANSI Z21.47:21/CSA 2.3:21 standards and UL 60335-2-40 (4th edition)/CAN/CSA-C22.2 No. 60335-2-40:22 standards.

Unit cabinet

The unit cabinet shall be a single-piece design, with drip edges and no-seam corners to provide optimum water integrity. The unit shall have a rigidly mounted outdoor coil guard to provide protection from objects and personnel after installation. The indoor blower section shall be insulated with foil-faced or foam insulation, fastened to prevent insulation from entering the airstream. The cabinet panels shall be separate and easily removable for servicing and maintenance. The unit shall be built on a formed, design base pan, with embossments at critical points to add strength and rigidity and aid in minimizing sound. Full perimeter base rails shall be provided to ensure reliable transit of equipment and facilitate overhead rigging, allowing truck access and correct sealing on roof curb applications. Base rails shall be easily removable if their removal is required to lower the unit height. Filters shall be field installed, furnished, and accessible through a removable access door, sealed airtight. The unit's vertical discharge and return duct configuration shall be designed to fit between standard 24 in. O.C. beams without modification to the building structure, ductwork, and base unit.

Durable finish: The cabinet shall be made of G90 galvanized steel with a powder paint coating for appearance and protection. The pre-treated galvanized steel shall provide a better paint-to-steel bond, which resists corrosion and rust creep. The powder paint finish shall provide superior corrosion resistance. The powder paint finish is 1,000 h salt spray tested.

On-site flexibility: All model sizes shall use a compact design cabinet in one of two footprints. This provides installer flexibility for placing the correct capacity unit on roof curbs or equipment pads or concrete slabs with the smallest footprint after the internal load has been determined. Field convertible duct connections from side shot to down shot allow the installer to have greater flexibility with less inventory.

Attractive appearance: A single-piece top cover containing a top-discharge outdoor fan arrangement shall be used. The one-piece design adds greater water integrity. Rounded corners with water drip edges add to the attractive appearance and prevent water penetration.

Convertible airflow design: The bottom duct openings shall be covered when they leave the factory, ready to be used for a side supply and side return application. If a bottom supply and bottom return application is required, remove the two panels from the bottom of the unit and place them in the side supply and side return duct openings. No panel cutting is required and no accessory panel is necessary. The convertible airflow design allows for maximum field flexibility and minimum inventory.

Utility connections made easy: Electric utility access shall be provided through the bottom or the side of the unit. Utility connections must be made quickly and with a minimum amount of field labor. A field-supplied electrical disconnect switch must be field installed.

Easy service access: Individual access panels shall provide access to all major components, for example, the electrical and gas controls, compressor, and blower, making servicing easy. Removing these panels allows easy removal of components such as the blower assembly for maintenance and troubleshooting.

Top discharge: The top-discharge outdoor fan shall not disrupt neighboring areas or dry out vegetation surrounding the unit. The warm air from the top mounted fan is blown up and away from the structure and any landscaping.

Outdoor coil grille: All models shall use a stamped slotted design that provides superior impact protection against small objects during transit and after installation.

Indoor blower assembly: The blower shall be a direct drive design. The blower wheel shall be a double-inlet type with forward-curved blades, dynamically balanced to operate smoothly throughout the entire range of operation. Bearings shall be sealed and permanently lubricated for longer life and no maintenance. The blower assembly shall be a slide-out design for easy removal and cleaning. Indoor blower motors shall be equipped with a standard high-efficiency brushless DC motor (constant torque), also known as a standard ECM motor.

Outdoor fan assembly: The outdoor fan shall be a direct driven propeller type, discharge air vertically, have aluminum blades riveted to a corrosion resistant steel spider bracket, and be statically balanced for smooth operation. The outdoor fan motor shall be totally enclosed with permanently lubricated bearings and internally protected against overload conditions.

Refrigerant components

Protected compressor: The compressor shall be a fully hermetic type, direct drive compressor, that is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of a high-pressure relief valve and a temperature sensor, which protects the compressor if unsuitable operating conditions occur. The hermetic motor shall be suction gas cooled and have a voltage range of $\pm 10\%$ of the unit rating plate voltage. Compressors shall have internal isolation and sound muffling to minimize vibration and noise, and be externally isolated on a dedicated, independent mounting.

Indoor coil: The indoor coil shall be a direct expansion, draw through design and have aluminum plate fins mechanically bonded to seamless internally enhanced aluminum tubes with all joints brazed.

Condensate pan: A corrosion-resistant, long-lasting, watertight pan shall be positioned below the indoor coil to collect and drain all condensate, preventing build-up of stagnant condensate. The condensate pan conforms to ASHRAE 62-19 standards - Ventilation for Acceptable Indoor Air Quality.

Condensate drain: The 3/4 in. NPT female connection shall be rigidly mounted to ensure correct fit and a leaktight seal.

Outdoor coils: Outdoor coils shall have aluminum louvered fins mechanically bonded to seamless internally enhanced aluminum microchannel tubes with all joints brazed, and be a draw through design.

Refrigerant circuit and refrigerant safety components shall include the following:

- Thermal expansion valve (TXV) that is factory mounted and provided
- Filter drier or strainer to eliminate any foreign matter

Gas heating section

The gas heat exchanger and exhaust system shall be constructed of corrosion-resistant materials and designed with induced draft combustion with post-purge logic and a redundant main gas valve. The gas heat exchanger shall be a tubular type, constructed of stainless steel for corrosion resistance and allowing a minimum continuous indoor mixed air entering temperature of 40°F. The premix burner shall allow for minimum NOx emissions and quiet operation. All gas piping shall enter the unit cabinet at a single location through either the side or bottom, without any field modifications. An integrated control board shall provide timed control of indoor blower functioning and burner ignition. The gas heating section shall be provided with the following minimum protection:

- Primary high-temperature limit switch
- Induced draft pressure switch
- Blocked burner inlet pressure switch
- Flame proving controls

All gas heat models meet the requirement of SCAQMD Rule 1111 for emissions of less than 14ng/J.

Physical data

Table 5: Physical data

Model		PG3E36U05S3	PG3E48U06S3	PG3E60U06S3
Nominal tonnage		3.0	4.0	5.0
AHRI cooling performance	Gross capacity at AHRI A point (MBH)	35.9	48.4	59.2
	AHRI net capacity (MBH)	34.8	46.5	57.0
	EER2	11.0	11.0	11.0
	SEER2	13.4	13.4	13.4
	Nominal CFM	1175	1700	1800
	System power (kW)	3.2	4.2	5.2
	Refrigerant type	R-454B	R-454B	R-454B
	Refrigerant charge (lb-oz)	3-7	4-1	4-13
AHRI gas heat performance	Heating model	50	65	65
	Heat input (kBtu)	50.0	65.0	65.0
	Heat output (kBtu)	41	53	53
	AFUE (%)	81.0	81.0	81.0
	Number of burners	1	1	1
	Number of stages	1	1	1
	Temp. rise range (°F)	25 to 55	30 to 60	30 to 60
	Maximum static pressure (in. W.C.)	0.5	0.5	0.5
	Maximum outlet air temp. (°F)	180	180	180
	Gas piping connection (in.)	1/2	1/2	1/2
Dimensions	Length (in.)	51 1/4	51 1/4	51 1/4
	Width (in.)	35 3/4	45 3/4	45 3/4
	Height (in.)	47	47	50
Operating weight (lb)		365	438	460
Compressor type		Scroll	Scroll	Scroll
Outdoor coil data	Face area (sq ft)	15.3	17.5	21.1
	Rows	1	1	1
	Fins per inch	23	23	23
	Tube diameter (mm)	16	16	16
	Coil type	Microchannel	Microchannel	Microchannel
Indoor coil data	Face area (sq ft)	4.6	6.2	6.2
	Rows	3	3	4
	Fins per inch	16	16	16
	Tube diameter (in.)	3/8	3/8	3/8
	Circuitry type	Straight	Straight	Straight
	Refrigerant control	TXV	TXV	TXV
Outdoor fan data	Coil type	Finned tube	Finned tube	Finned tube
	Fan diameter (in.)	24	26	26
	Type	Propeller	Propeller	Propeller
	Drive type	Direct	Direct	Direct
	Number of speeds	1	1	1
	Motor (hp)	1/3	1/3	1/3
	RPM	850	850	850
	Nominal total CFM	2400	3200	3200
Direct drive indoor blower data	Blower size (in.)	11 x 10	11 x 10	11 x 10
	Type	Centrifugal	Centrifugal	Centrifugal
	Motor (hp)	1/2	3/4	1
	RPM (maximum)	1400	1400	1400
	Frame size (in.)	48	48	48
Filter size		A	B	B

① Note: You must size field-supplied external filters so as not to exceed 300 fpm air velocity through disposable filters. All three-phase models are shipped with an air filter frame kit and permanent filters that you can install in the field. Refer to the instructions supplied with the kit for replacement filter sizes. Filter size A is 20 in. x 20 in. Filter size B is 20 in. x 30 in.

Cooling performance data

Table 6: Cooling performance data for PG3E36U05S3 unit - 3 ton

Condenser entering air temperature DB/WB (°F)	ID SCFM	1000					1200					1400				
	IDDB (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	IDWB (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55/45	Total capacity (MBH)	39.0	41.2	41.1	42.4	42.4	41.2	42.2	42.2	43.4	43.0	42.7	42.9	42.9	43.9	43.4
	Sensible capacity (MBH)	39.0	33.8	28.9	27.2	20.7	41.2	36.5	30.8	28.7	21.3	42.7	38.8	32.4	30.0	21.7
	Total power (kW)	1.63	1.61	1.62	1.60	1.62	1.73	1.70	1.72	1.70	1.72	1.83	1.80	1.82	1.80	1.83
65/55	Total capacity (MBH)	38.4	36.4	38.6	41.9	45.2	39.1	38.1	39.4	42.7	45.9	39.5	39.3	39.9	43.1	46.3
	Sensible capacity (MBH)	28.0	36.4	33.2	28.0	22.7	29.9	38.1	35.8	29.8	23.7	31.5	39.3	38.3	31.4	24.5
	Total power (kW)	1.97	1.97	1.96	1.93	1.89	2.08	2.07	2.06	2.03	2.00	2.19	2.17	2.17	2.14	2.10
75/63	Total capacity (MBH)	36.4	34.6	36.5	39.8	43.3	37.1	36.3	37.2	40.5	43.9	37.5	37.5	37.7	41.0	44.3
	Sensible capacity (MBH)	26.7	34.6	31.8	26.5	21.1	28.7	36.3	34.6	28.5	22.1	30.5	37.5	37.2	30.3	23.1
	Total power (kW)	2.20	2.20	2.20	2.17	2.12	2.31	2.30	2.30	2.27	2.22	2.42	2.40	2.40	2.37	2.32
85/69	Total capacity (MBH)	34.2	32.7	34.2	37.4	40.7	34.9	34.3	34.9	38.1	41.4	35.3	35.4	35.5	38.5	41.8
	Sensible capacity (MBH)	25.1	32.7	30.2	24.8	19.2	27.3	34.3	33.2	26.9	20.4	29.2	35.4	35.5	28.8	21.4
	Total power (kW)	2.42	2.42	2.42	2.39	2.35	2.53	2.52	2.52	2.49	2.44	2.64	2.63	2.63	2.60	2.54
95/75	Total capacity (MBH)	32.2	30.9	32.1	35.2	38.4	32.8	32.4	32.7	35.8	39.1	33.2	33.5	33.5	36.2	39.6
	Sensible capacity (MBH)	23.7	30.9	28.8	23.3	17.6	25.8	32.4	31.8	25.4	18.8	27.7	33.5	33.5	27.3	19.9
	Total power (kW)	2.73	2.72	2.72	2.70	2.66	2.84	2.83	2.83	2.81	2.77	2.95	2.93	2.93	2.92	2.87
105/83	Total capacity (MBH)	29.1	28.4	29.0	31.8	34.7	29.5	29.8	29.8	32.3	35.2	29.8	30.8	30.8	32.6	35.5
	Sensible capacity (MBH)	21.7	28.4	27.0	21.1	15.2	24.0	29.8	29.8	23.4	16.5	26.3	30.8	30.8	25.7	17.7
	Total power (kW)	3.00	2.99	2.99	2.98	2.95	3.12	3.10	3.10	3.09	3.05	3.23	3.21	3.21	3.20	3.16
115/89	Total capacity (MBH)	25.7	25.5	25.6	28.1	30.7	26.1	26.7	26.7	28.5	31.1	26.2	27.5	27.6	28.7	31.3
	Sensible capacity (MBH)	19.4	25.5	25.3	18.7	12.7	21.9	26.7	26.7	21.1	14.0	24.5	27.5	27.6	23.5	15.3
	Total power (kW)	3.33	3.32	3.32	3.32	3.30	3.44	3.43	3.43	3.43	3.40	3.55	3.53	3.53	3.53	3.51
125/95	Total capacity (MBH)	23.7	24.7	23.9	25.0	26.4	23.5	25.3	24.4	24.7	25.9	23.1	25.6	24.6	24.2	25.2
	Sensible capacity (MBH)	18.7	24.7	23.9	17.2	10.3	20.6	25.3	24.4	18.9	10.8	23.0	25.6	24.6	20.7	11.3
	Total power (kW)	3.73	3.72	3.72	3.72	3.71	3.85	3.84	3.84	3.84	3.83	3.97	3.96	3.95	3.96	3.95

Table 7: Cooling performance data for PG3E48U06S3 unit - 4 ton

Condenser entering air temperature DB/WB (°F)	ID SCFM	1400					1600					1800				
	IDDB (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	IDWB (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55/45	Total capacity (MBH)	51.4	53.9	53.9	57.7	61.3	53.3	54.9	55.0	59.1	62.9	54.6	55.7	55.8	60.2	64.2
	Sensible capacity (MBH)	51.4	46.2	39.1	37.8	29.4	53.3	49.2	41.3	40.0	31.0	54.6	52.0	43.3	42.0	32.4
	Total power (kW)	2.38	2.37	2.37	2.33	2.30	2.54	2.53	2.54	2.50	2.47	2.69	2.69	2.71	2.67	2.66
65/55	Total capacity (MBH)	51.6	48.8	51.6	56.2	60.9	52.2	50.3	52.2	56.8	61.6	52.6	51.5	52.5	57.2	62.0
	Sensible capacity (MBH)	37.7	48.8	44.7	37.3	29.8	39.5	50.3	47.4	39.2	30.8	41.2	51.5	49.9	40.9	31.6
	Total power (kW)	2.75	2.75	2.74	2.71	2.68	2.92	2.91	2.91	2.88	2.84	3.09	3.08	3.08	3.04	3.01
75/63	Total capacity (MBH)	49.1	47.0	49.0	53.4	58.0	49.7	48.4	49.5	54.0	58.5	49.9	49.5	49.6	54.3	58.8
	Sensible capacity (MBH)	36.4	47.0	43.5	36.0	28.3	38.4	48.4	46.4	37.9	29.3	40.3	49.5	49.2	39.8	30.2
	Total power (kW)	3.10	3.09	3.09	3.07	3.04	3.27	3.26	3.26	3.24	3.21	3.45	3.43	3.42	3.41	3.39
85/69	Total capacity (MBH)	46.4	44.7	46.3	50.5	54.7	46.8	46.1	46.5	50.9	55.2	47.1	47.1	47.1	51.1	55.5
	Sensible capacity (MBH)	34.8	44.7	42.0	34.3	26.5	36.9	46.1	45.1	36.3	27.5	38.8	47.1	47.1	38.3	28.5
	Total power (kW)	3.47	3.46	3.46	3.46	3.44	3.65	3.64	3.63	3.63	3.61	3.82	3.81	3.80	3.80	3.78
95/75	Total capacity (MBH)	43.6	42.3	43.4	47.5	51.7	43.9	43.6	43.7	47.9	52.0	44.1	44.5	44.5	48.1	52.3
	Sensible capacity (MBH)	33.0	42.3	40.3	32.4	24.5	35.0	43.6	43.3	34.4	25.5	36.9	44.5	44.5	36.4	26.5
	Total power (kW)	3.93	3.92	3.92	3.93	3.93	4.11	4.10	4.10	4.11	4.10	4.29	4.27	4.27	4.28	4.27
105/83	Total capacity (MBH)	39.0	38.5	38.7	42.5	46.3	39.3	39.6	39.6	42.8	46.6	39.3	40.4	40.5	42.9	46.7
	Sensible capacity (MBH)	30.1	38.5	37.9	29.3	21.1	32.3	39.6	39.6	31.5	22.2	34.5	40.4	40.5	33.6	23.3
	Total power (kW)	4.42	4.40	4.39	4.42	4.42	4.59	4.58	4.58	4.59	4.60	4.77	4.75	4.75	4.77	4.78
115/89	Total capacity (MBH)	34.3	34.5	34.5	37.5	40.8	34.7	35.4	35.4	37.6	41.0	34.4	36.1	36.1	37.6	41.1
	Sensible capacity (MBH)	27.4	34.5	34.5	26.2	17.8	29.7	35.4	35.4	28.4	19.0	32.0	36.1	36.1	30.7	20.1
	Total power (kW)	4.95	4.94	4.94	4.97	4.99	5.14	5.12	5.12	5.15	5.18	5.31	5.30	5.30	5.32	5.36
125/95	Total capacity (MBH)	30.9	32.4	31.7	33.0	35.0	30.7	33.2	32.2	32.6	34.5	30.5	33.7	32.5	32.1	33.7
	Sensible capacity (MBH)	26.2	32.4	31.7	23.9	14.6	28.4	33.2	32.2	25.8	15.0	30.2	33.7	32.5	27.5	15.3
	Total power (kW)	5.61	5.63	5.60	5.62	5.64	5.78	5.81	5.78	5.80	5.83	5.96	5.97	5.96	5.98	6.04

Table 8: Cooling performance data for PG3E60U06S3 unit - 5 ton

Condenser entering air temperature DB/WB (°F)	ID SCFM	1600					1800					2000				
	IDDB (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	IDWB (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55/45	Total capacity (MBH)	62.9	67.3	67.2	72.6	76.9	65.2	68.9	68.8	74.6	79.3	67.1	69.8	69.8	75.9	80.9
	Sensible capacity (MBH)	62.9	56.4	48.6	47.0	37.5	65.2	59.8	51.1	49.8	39.8	67.1	62.7	53.2	52.1	41.8
	Total power (kW)	3.01	3.01	3.02	3.00	3.01	3.13	3.13	3.15	3.13	3.14	3.29	3.29	3.32	3.30	3.31
65/55	Total capacity (MBH)	64.3	59.7	64.3	70.2	76.5	65.3	61.6	65.4	71.3	77.6	65.9	63.1	65.9	72.0	78.3
	Sensible capacity (MBH)	46.2	59.7	53.9	46.3	38.6	48.1	61.6	56.6	48.2	39.6	49.7	63.1	59.1	49.7	40.4
	Total power (kW)	3.47	3.46	3.46	3.46	3.45	3.60	3.59	3.59	3.59	3.59	3.77	3.76	3.76	3.76	3.76
75/63	Total capacity (MBH)	61.0	57.3	61.0	66.6	72.6	61.9	59.1	61.7	67.6	73.6	62.5	60.5	62.1	68.2	74.2
	Sensible capacity (MBH)	44.4	57.3	52.3	44.3	36.3	46.4	59.1	55.3	46.3	37.4	48.1	60.5	57.9	48.0	38.3
	Total power (kW)	3.88	3.87	3.87	3.87	3.87	4.01	4.00	4.00	4.00	4.00	4.18	4.17	4.17	4.17	4.18
85/69	Total capacity (MBH)	57.5	54.6	57.2	62.8	68.5	58.3	56.3	58.0	63.7	69.5	58.7	57.6	58.4	64.2	69.9
	Sensible capacity (MBH)	42.5	54.6	50.8	42.3	34.0	44.6	56.3	53.7	44.3	35.2	46.5	57.6	56.4	46.1	36.1
	Total power (kW)	4.30	4.29	4.29	4.30	4.31	4.43	4.42	4.42	4.43	4.44	4.60	4.59	4.60	4.60	4.61
95/75	Total capacity (MBH)	54.0	51.9	53.9	59.1	64.6	54.7	53.6	54.5	59.8	65.5	55.1	54.8	54.8	60.2	66.0
	Sensible capacity (MBH)	41.0	51.9	49.0	40.6	31.9	43.1	53.6	52.2	42.8	33.1	45.1	54.8	54.8	44.7	34.1
	Total power (kW)	4.79	4.78	4.79	4.80	4.82	4.92	4.92	4.92	4.94	4.96	5.10	5.09	5.09	5.11	5.13
105/83	Total capacity (MBH)	50.0	48.8	49.8	54.7	59.8	50.6	50.3	50.3	55.4	60.5	50.9	51.4	51.5	55.7	60.8
	Sensible capacity (MBH)	38.8	48.8	47.1	38.5	29.7	41.1	50.3	50.3	40.7	31.0	43.2	51.4	51.5	42.8	32.1
	Total power (kW)	5.34	5.34	5.34	5.36	5.39	5.48	5.48	5.48	5.50	5.52	5.66	5.66	5.66	5.67	5.70
115/89	Total capacity (MBH)	45.8	45.3	45.6	50.3	55.0	46.3	46.7	46.7	50.8	55.6	46.5	47.8	47.8	51.0	55.7
	Sensible capacity (MBH)	36.5	45.3	45.0	36.1	27.3	38.9	46.7	46.7	38.4	28.6	41.2	47.8	47.8	40.6	29.8
	Total power (kW)	6.01	6.01	6.01	6.03	6.07	6.15	6.15	6.16	6.17	6.21	6.33	6.34	6.34	6.35	6.39
125/95	Total capacity (MBH)	41.7	42.5	42.1	45.7	49.8	42.0	43.7	43.3	46.0	50.2	42.1	44.6	44.2	47.6	50.3
	Sensible capacity (MBH)	34.7	42.5	42.1	33.8	24.1	37.3	43.7	43.3	36.1	25.4	39.3	44.6	44.2	38.7	26.6
	Total power (kW)	6.83	6.83	6.83	6.89	6.99	6.96	6.99	6.98	7.02	7.13	7.15	7.18	7.15	7.27	7.31

Sound performance data

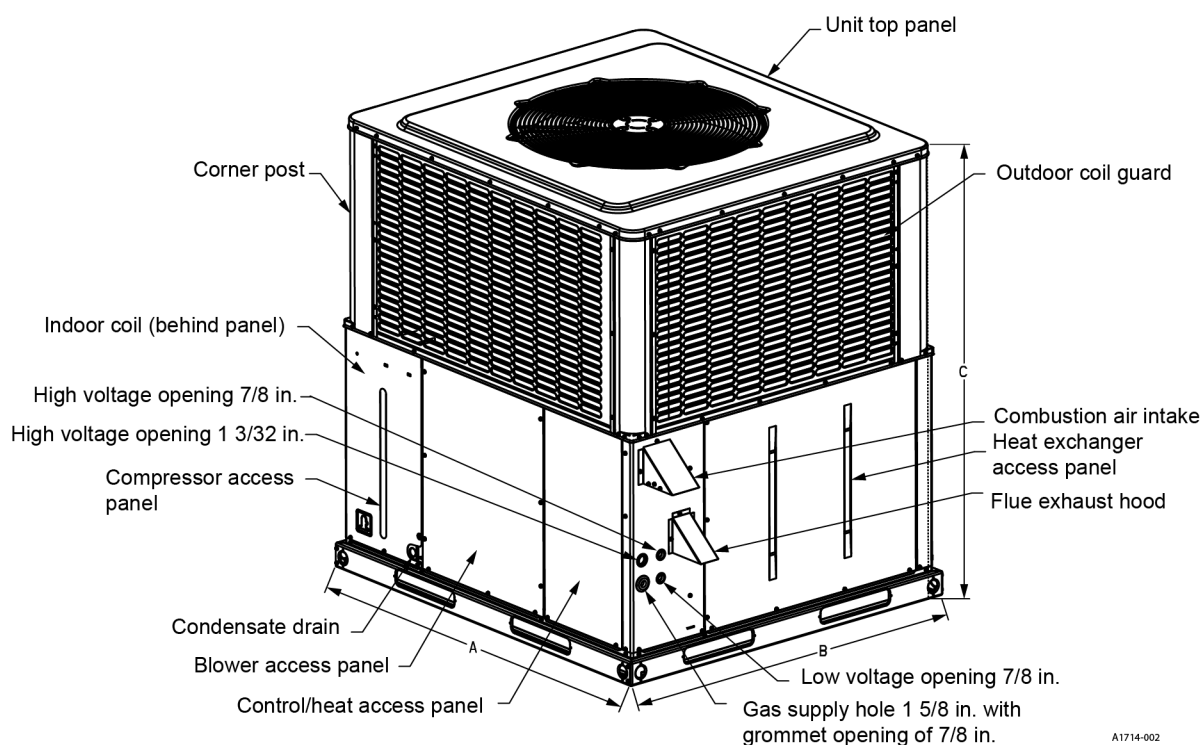
Table 9: Sound performance data

Model	Sound rating (dBA)	Octave band centerline frequency (Hz)						
		125	250	500	1000	2000	4000	8000
PG3E36U05S3	75	83.2	71.2	70.1	70.8	66.0	61.0	60.6
PG3E48U06S3	78	87.5	79.3	72.6	72.1	66.7	62.9	57.5
PG3E60U06S3	76	80.7	75.3	71.9	72.0	67.1	63.9	59.6

① **Note:** The sound rating shown is rated in accordance with AHRI Standard 270.

Unit dimensions and access locations

Figure 2: Unit dimensions and access locations



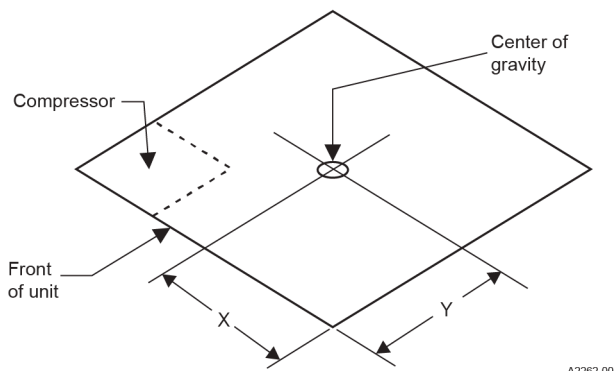
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Table 10: Unit dimensions

Model	Dimensions (in.)		
	A	B	C
PG3E36U05S3	51 1/4	35 3/4	47
PG3E48U06S3	51 1/4	45 3/4	47
PG3E60U06S3	51 1/4	45 3/4	50

Weights and dimensions

Figure 3: Center of gravity



A2262-001

Table 11: Weights and dimensions

Model	Weight (lb)		Center of gravity (in.)	
	Shipping	Operating	X	Y
PG3E36U05S31	372	365	27	15
PG3E48U06S31	443	438	28	19
PG3E60U06S31	465	460	28	19

Unit clearances

Table 12: Unit clearances

Direction	Distance (in.)	Direction	Distance (in.)
Top	36	Power entry (right side)	36
Side opposite ducts	36	Left side	24
Duct panel	6	Bottom	1



Note:

- Provide a 1 in. clearance between any combustible material and the supply air ductwork.
- Do not allow the products of combustion to accumulate within a confined space and recirculate.
- Install units outdoors. Make sure that overhanging structures or shrubs do not obstruct the outdoor air discharge outlet.
- You can install units on combustible materials made from wood or class A, B, or C roof covering materials if the factory base rails are left in place as shipped.

Electrical data

Table 13: Electrical data for 208/230-3-60

Model	Voltage (V-phase-Hz)	Compressor			Outdoor fan motor	Supply blower motor	MCA	MOP
		RLA	LRA	MCC	FLA	FLA	A	A
PG3E36U05S3	208/230-3-60	9.0	70	14	1.7	4.8	17.7	25
PG3E48U06S3	208/230-3-60	12.0	123	18.7	1.7	6.8	23.5	35
PG3E60U06S3	208/230-3-60	13.1	93	20.4	1.7	7.8	25.8	35

① **Note:**

- 208/230-3-60 indicates 208 V/230 V, three phase, 60 Hz.
- MCA indicates minimum circuit ampacity.
- MOP indicates maximum overcurrent protection device. This must be a HACR circuit breaker or time delay fuse. The maximum overcurrent protection must be in accordance with the UL 60335-2-40 standard (fourth edition).

Indoor blower specifications

Table 14: Indoor blower specifications

Model	Motor				
	HP	RPM	EFF	SF	Frame
PG3E36L05S31	1/2	Variable	0.8	1.0	48
PG3E48L06S31	3/4	Variable	0.8	1.0	48
PG3E60L06S31	1	Variable	0.8	1.0	48

Airflow performance data for side duct application

Table 15: Airflow performance data for side duct application

Model	Motor speed	External static pressure (in. W.C.)								
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
		SCFM	SCFM	SCFM	SCFM	SCFM	SCFM	SCFM	SCFM	SCFM
PG3E36U05S3	Low (1)	850	790	710	660	610	560	510	450	400
	Low/Medium (2)	960	910	860	790	740	690	640	590	510
	Medium (3)	1270	1230	1190	1150	1110	1060	1000	960	860
	Medium/High (4)	1320	1280	1250	1210	1160	1120	1060	1010	920
	High (5)	1490	1450	1420	1380	1340	1300	1260	1210	1120
PG3E48U06S3	Low (1)	1690	1650	1600	1570	1530	1490	1440	1400	1310
	Low/Medium (2)	1090	1040	990	930	870	800	720	670	540
	Medium (3)	1140	1090	1030	980	920	850	780	730	600
	Medium/High (4)	1800	1760	1720	1680	1650	1610	1560	1520	1440
	High (5)	2020	1980	1940	1910	1870	1830	1790	1760	1690
PG3E60U06S3	Low (1)	1870	1840	1810	1770	1730	1690	1650	1620	1540
	Low/Medium (2)	1090	1020	960	910	840	750	690	640	550
	Medium (3)	1160	1100	1050	990	930	860	800	740	640
	Medium/High (4)	1940	1910	1870	1830	1800	1770	1720	1680	1610
	High (5)	2240	2210	2180	2150	2100	2070	2040	2010	1940

①

Note:

- Airflow is tested with dry coil conditions, without air filters, at 230 V.
- Applications above 0.8 in. W.C. external static pressure are not recommended.
- A brushless DC high-efficiency standard ECM blower motor is used for all indoor blower assemblies
- Minimal variations in airflow performance data result from operating at 208 V. The data in this table can be used in those cases.
- Heating applications are tested at 0.50 in. W.C. external static pressure. Cooling applications are tested according to AHRI Standard 210/240.
- The differences between side duct airflows and bottom duct airflows are insignificant.

Additional static resistance data

Table 16: Additional static resistance data

Model	CFM	Wet indoor coil	Economizer	Air filter frame kit
PG3E36U05S3 - 3 ton	700	0.01	0.00	0.04
	800	0.02	0.01	0.06
	900	0.03	0.01	0.08
	1000	0.04	0.01	0.10
	1100	0.05	0.01	0.13
	1200	0.06	0.02	0.16
	1300	0.07	0.03	0.17
	1400	0.08	0.04	0.18
PG3E48U06S3 - 4 ton	1100	0.02	0.02	0.04
	1200	0.03	0.02	0.04
	1300	0.04	0.02	0.05
	1400	0.05	0.03	0.05
	1500	0.06	0.04	0.06
	1600	0.07	0.04	0.07
	1700	0.07	0.04	0.08
	1800	0.08	0.04	0.09
	1900	0.09	0.05	0.10
	2000	0.09	0.05	0.11
PG3E60U06S3 - 5 ton	1100	0.02	0.02	0.04
	1200	0.03	0.02	0.04
	1300	0.04	0.02	0.05
	1400	0.05	0.03	0.05
	1500	0.06	0.04	0.06
	1600	0.07	0.04	0.07
	1700	0.07	0.04	0.08
	1800	0.08	0.04	0.09
	1900	0.09	0.05	0.10
	2000	0.09	0.05	0.11
① Note: <ul style="list-style-type: none"> The pressure drop through the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct is less than 0.25 IWG, the unit delivers less CFM during full economizer operation. The filter pressure drop is based on standard filter media tested at velocities not exceeding 300 ft/min. 				

Bottom duct dimensions

Figure 4: Bottom duct dimensions (in.)

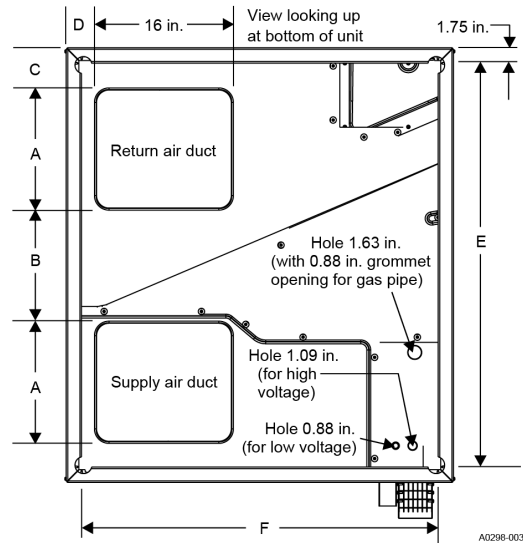


Table 17: Bottom duct dimensions

Model	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)
PG3E36U05S3	10	21.5	5	4.5	47.5	32
PG3E48U06S3 and PG3E60U06S3	14	13.5	5	3.5	47.5	42

Rear duct dimensions

Figure 5: Rear duct dimensions (in.)

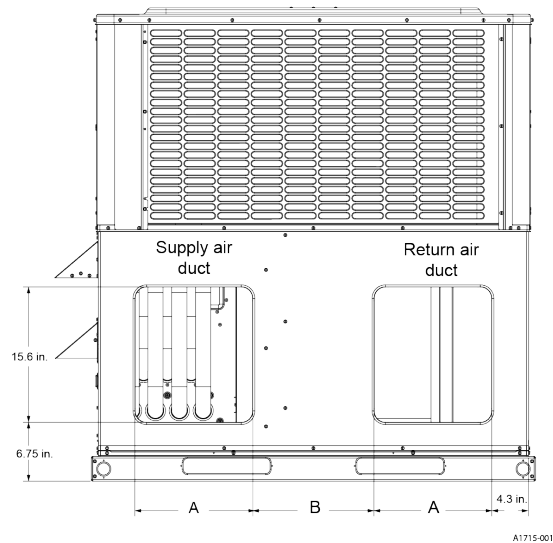


Table 18: Rear duct dimensions

Model	A (in.)	B (in.)
PG3E36U05S3	9.6	22
PG3E48U06S3 and PG3E60U06S3	13.6	14

① **Note:** See [Figure 2](#) for side hole sizes of electrical and gas lines.

Typical applications

Figure 6: Typical duct applications for unit

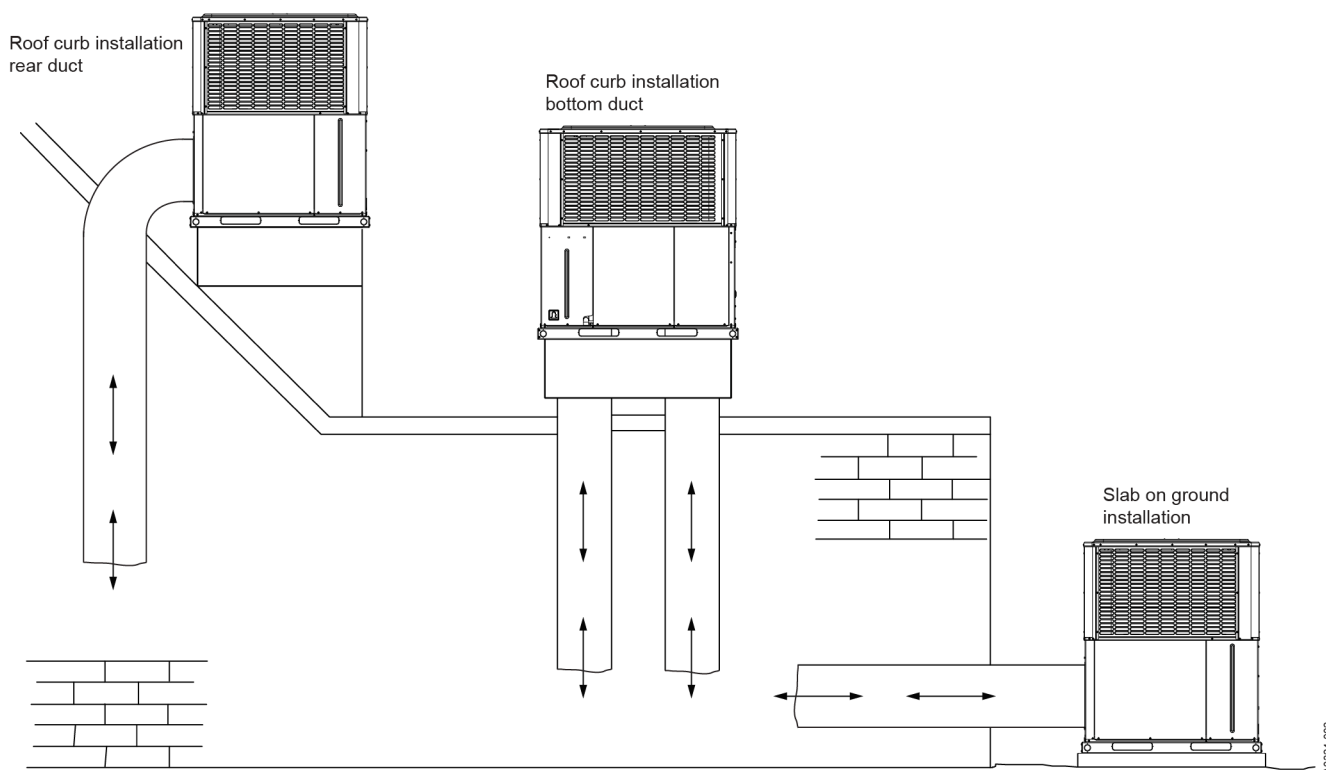


Figure 7: Typical ground installation on slab for unit

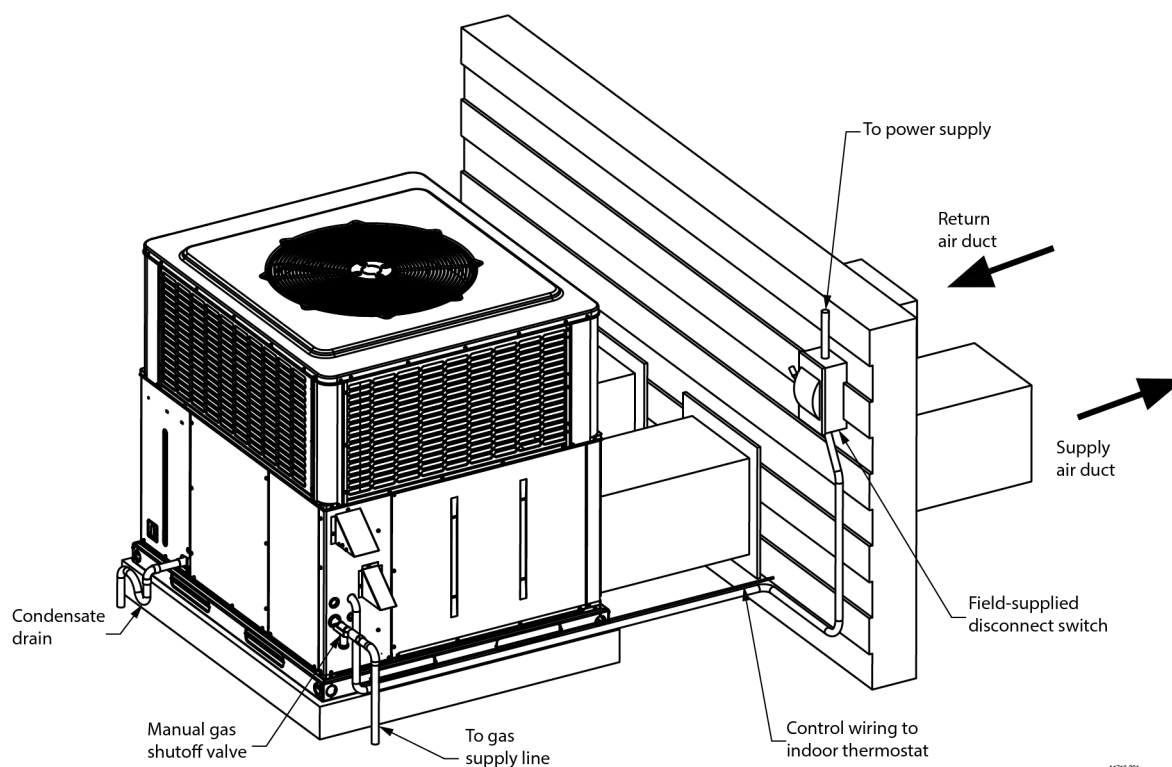
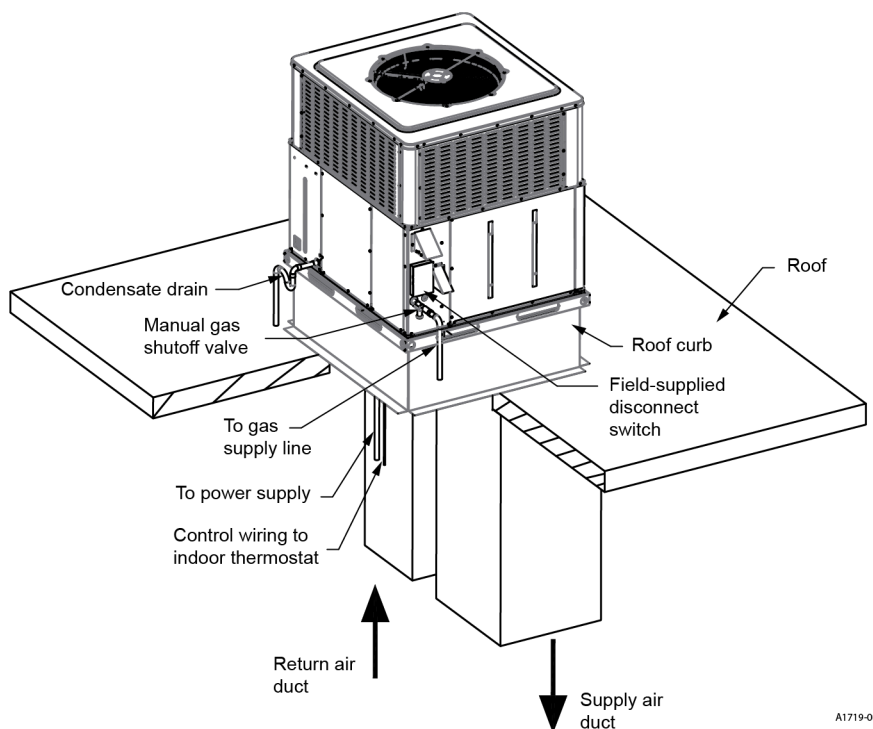


Figure 8: Typical installation on roof curb for unit

Third-party trademarks

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