



FRIEDRICH

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Endeavor® Line F-Series Plus™ Gas Furnaces



FR972V

97% A.F.U.E.†

EcoNet® Enabled

Heating Stages: Two-Stage

Motor Type: Constant CFM

Input Rates: 40 to 115 kBTU [11.7 to 33.7 kW]

Configuration Options: Upflow



† A.F.U.E. (Annual Fuel Utilization Efficiency) calculated in accordance with Department of Energy test procedures.

¹Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR®. Ask your Contractor for details or visit www.energystar.gov.

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Features and Benefits

- **PlusOne® Energy Efficiency:** ENERGY STAR® certified, featuring 97% AFUE across all model sizes
- **PlusOne Diagnostics:** With the Friedrich® Contractor & EcoNet® Apps, built-in EcoNet & Bluetooth®¹ technology makes monitoring, troubleshooting and repairing the product easier than ever before
- **Dip Switch Free Installation Commissioning via Bluetooth Technology:** Seamless final install step without DIP switch configuration using the Friedrich Contractor App
- **PlusOne Ignition System:** Proven Direct Spark Ignition (DSI) for reliability and longevity
- **PlusOne Water Management System:** Exclusive patented block drain sensor that automatically shuts off the furnace when the drain is blocked and alerts the contractor via diagnostic code
- **Two-Stage Heating:** Furnace operation mainly stays at low capacity around 70%, but will switch to high capacity to deliver stable heat distribution
- **Constant CFM Motor:** Truly variable speed technology allows for humidity control, quieter sound levels and year-round energy savings
- **Quieter Operation²:** A fully insulated blower cabinet, solid bottom and truly variable speed airflow technology makes this furnace one of the quieter options available
- **EcoNet Enabled Furnace:** The latest in sensor technology and the EcoNet monitoring system provides a new level of protection, control and energy savings
- **Allows on-the-go Control:** And receipt of system alerts by the homeowner via the EcoNet Smart Thermostat and EcoNet App³
- **Certified for use in elevations up to 10,000 feet**

¹The Bluetooth word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Rheem® is under license. Other trademarks and trade names are those of their respective owners. ²Based on manufacturer's furnace offering, and the product's heating stages, motor type and cabinet insulation. Sound levels are also dependent on furnace location and installation. ³Wifi broadband internet connection required. Download the EcoNet App from the App Store® or Google Play® to set up your EcoNet Smart Thermostat. Receipt of notifications depend on home WiFi set up. Amazon, Alexa and all related logos are trademarks of Amazon.com, Inc. or its affiliates.

Gas Furnaces

<u>FR</u>	<u>97</u>	<u>2</u>	<u>V</u>	<u>040</u>	<u>3</u>	<u>A</u>	<u>17</u>	<u>UP</u>	<u>S</u>	<u>C</u>	<u>A</u>	<u>P</u>
Brand	Furnace Efficiency	Stages of Heating	Motor Type	Heating Input	AC Max. Capacity	Major Series	Width	Position	NOx	Controls	Minor Series	Option Code
FR - Friedrich	97 - 97% AFUE	2 - Two-Stage	V - ECM Variable Speed	040 - 40,000 [11.7 kW] 060 - 60,000 [17.6 kW] 070 - 70,000 [20.5 kW] 085 - 85,000 [24.9 kW] 100 - 100,000 [29.3 kW] 115 - 115,000 [33.7 kW]	3 - 3 ton drive 5 - 5 ton drive	A - 1st Design Series	17 - 17.5" Width 21 - 21" Width 24 - 24.5" Width	UP - Upflow S - Standard	S - Standard	C - Communicating, EcoNet, Bluetooth	A - 1st Series	P - Premium Grade

[] Designates Metric Conversions

AVAILABLE MODELS
FR972V0403A17UPSCAP
FR972V0603A17UPSCAP
FR972V0703A17UPSCAP
FR972V0705A21UPSCAP
FR972V0855A21UPSCAP
FR972V1005A21UPSCAP
FR972V1155A24UPSCAP

STANDARD EQUIPMENT
Adjustable Humidifier On/Off Delay ¹
Auxiliary Input Connection ¹
Condensate Switch Connection ¹
Outdoor Air Temperature Sensor Connection ¹
Supply Air Sensor Connection ¹
100% Safety Lock Out
2 Stage Induced Draft Motor
29-4C Stainless Steel Secondary Heat Exchanger Design
Adjustable Cool Fan Off Delay
Aluminized Steel Primary Heat Exchanger Design
Blocked Drain Sensor
Blower Compartment Door Safety Switch
Bluetooth Setup And Diagnostics
Completely Assembled And Wired
Direct Drive Motor
EcoNet Thermostat Connections
Electronic Air Cleaner Connections
Electronic On/Off Blower Time Control
Humidifier Connections
Humidistat Terminal Connection
Limit Controls
Low Speed Continuous Fan Option
Manual Shut-Off Valve
Marked Condensate Hoses
On Demand Dehumidifier Connection
One Hour Automatic Retry
Power And Self Test Diagnostics
Pressure Switches
PWM Controlled Constant Torque Electrically Commutated Blower Motor
Redundant 2 Stage Main Gas Control
Solid Bottom
Blower Insulation
Two Plus Stage Cooling Thermostat Connection ²
Fully Insulated Heat Exchanger Cabinet
Two Speed Heating

WARNING

THIS FURNACE IS NOT APPROVED
OR RECOMMENDED
FOR USE IN MOBILE HOMES

¹When used with EcoNet Smart Thermostat only
²When connected to three-speed or modulating AC/HP product

Physical Data and Specifications

U.S. and Canadian Models

MODEL NUMBERS	FR972V0403 A17UPSCAP	FR972V0603 A17UPSCAP	FR972V0703 A17UPSCAP	FR972V0705 A21UPSCAP	FR972V0855 A21UPSCAP	FR972V1005 A21UPSCAP	FR972V1155 A24UPSCAP
HIGH FIRE INPUT BTU/HR [kW] ①	42,000 [12.31]	56,000 [16.41]	70,000 [20.50]	70,000 [20.50]	84,000 [24.61]	98,000 [28.72]	112,000 [32.82]
LOW FIRE INPUT	29,400 [8.61]	39,200 [11.49]	49,000 [14.36]	49,000 [14.36]	58,800 [17.23]	68,600 [20.11]	78,400 [23.00]
HEATING CAPACITY BTU/HR [kW]	41,000 [12.02]	55,000 [16.12]	68,000 [19.93]	68,000 [19.93]	82,000 [24.03]	95,000 [27.84]	109,000 [31.94]
HIGH ALTITUDE OUTPUT 10% DERATE [kW] ②	36,288 [10.64]	48,384 [14.18]	60,480 [17.72]	60,480 [17.72]	72,756 [21.27]	84,672 [24.81]	96,768 [28.36]
BLOWER (D x W) [mm]	11 x 7 [279 x 178]	11 x 8 [279 x 203]	11 x 8 [279 x 203]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 11 [279 x 279]
MOTOR H.P. [W]– TYPE	1/2 [373] VS-CT(ECM)	1/2 [373] VS-CT(ECM)	1/2 [373] VS-CT(ECM)	1 [746] VS-CT(ECM)	1 [746] VS-CT(ECM)	1 [746] VS-CT(ECM)	1 [746] VS-CT(ECM)
MIN. CIRCUIT AMPACITY	9.00	9.00	8.00	15.00	15.00	15.00	15.00
MIN. OVERLOAD PROTECTION DEVICE	15.00	15.00	15.00	20.00	20.00	20.00	20.00
MAX. OVERLOAD PROTECTION DEVICE	15.00	15.00	15.00	25.00	20.00	25.00	25.00
MOTOR FULL LOAD AMPS	6.3	6.1	6.1	12.4	12.4	12.4	12.4
MAXIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	1.0 [0.25]	1.0 [0.25]	1.0 [0.25]	1.0 [0.25]	1.0 [0.25]	1.0 [0.25]	1.0 [0.25]
HEATING HI CFM [L/s]	990 [468]	1100 [520]	1200 [566]	1375 [649]	1380 [651]	1440 [680]	1750 [826]
HEATING LO CFM [L/s]	870 [411]	990 [467]	1030 [486]	1200 [566]	1230 [580]	1250 [590]	1550 [732]
MAX Cooling CFM [L/s]	1240 [585]	1240 [585]	1240 [585]	1980 [934]	1980 [934]	1980 [934]	1980 [934]
MIN Cooling CFM [L/s]	300 [142]	300 [142]	300 [142]	500 [236]	500 [236]	500 [236]	500 [236]
FAN CFM [L/s]	600 [283]	600 [283]	600 [283]	1000 [472]	1000 [472]	1000 [472]	1000 [472]
TEMPERATURE RISE-HIGH FIRE RANGE IN DEGREES °F [°C]	25 - 55 [14 - 31]	30 - 60 [17 - 33]	35 - 65 [20 - 37]	30 - 60 [17 - 33]	30 - 60 [17 - 33]	40 - 70 [22 - 39]	40 - 70 [22 - 39]
TEMPERATURE RISE-LOW FIRE RANGE IN DEGREES °F [°C]	20 - 50 [12 - 28]	20 - 50 [11 - 28]	25 - 55 [13 - 31]	20 - 50 [11 - 28]	20 - 50 [11 - 28]	30 - 60 [17 - 33]	30 - 60 [17 - 33]
APPROX. SHIPPING WEIGHT (LBS.) [kg]	123 [56]	128 [58]	133.5 [61]	146.5 [66]	150 [68]	155 [70]	190 [86.2]
AFUE ③	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%	97.00%

NOTES: All models are 115V, 60HZ, 1 phase. Gas connection size for all models is 1/2" [13 mm] N.P.T.

① Installation instructions for high altitude derate.

② Canadian installations only.

③ In accordance with D.O.E. test procedures.

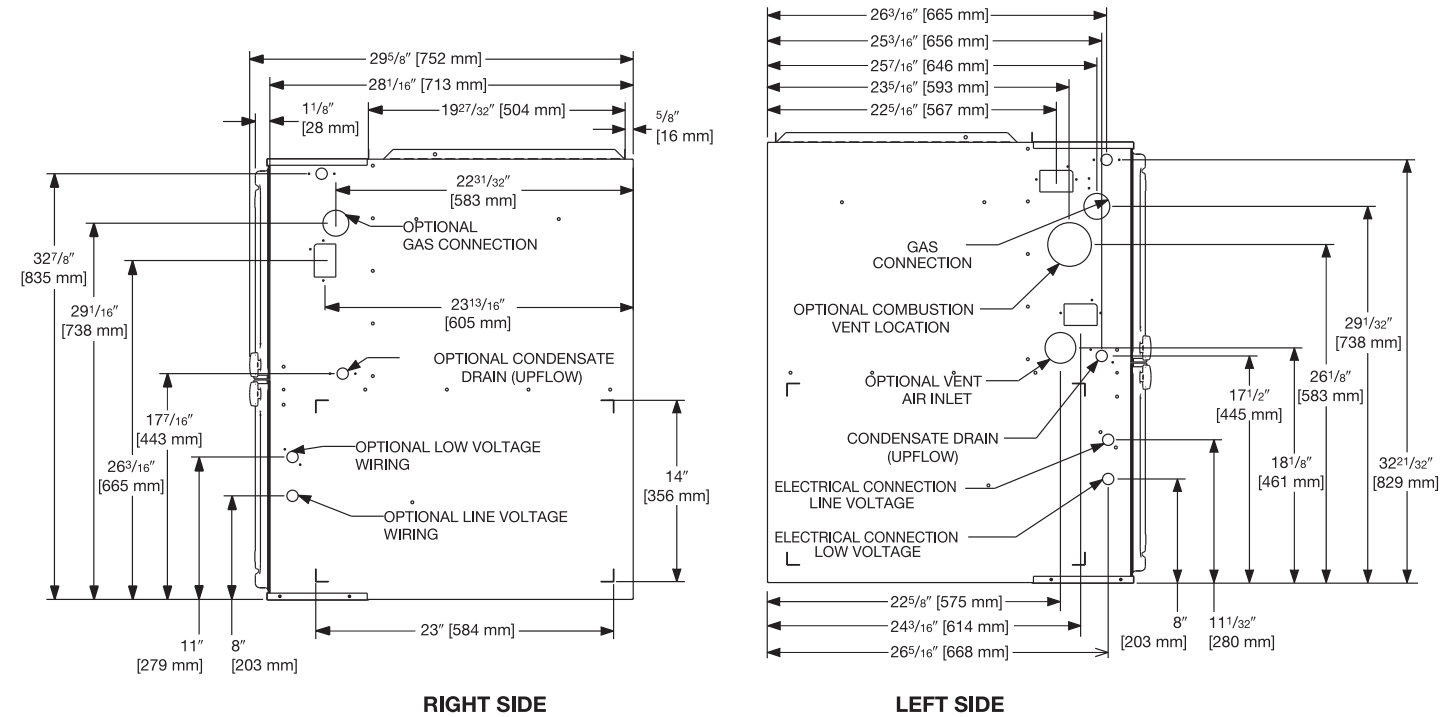
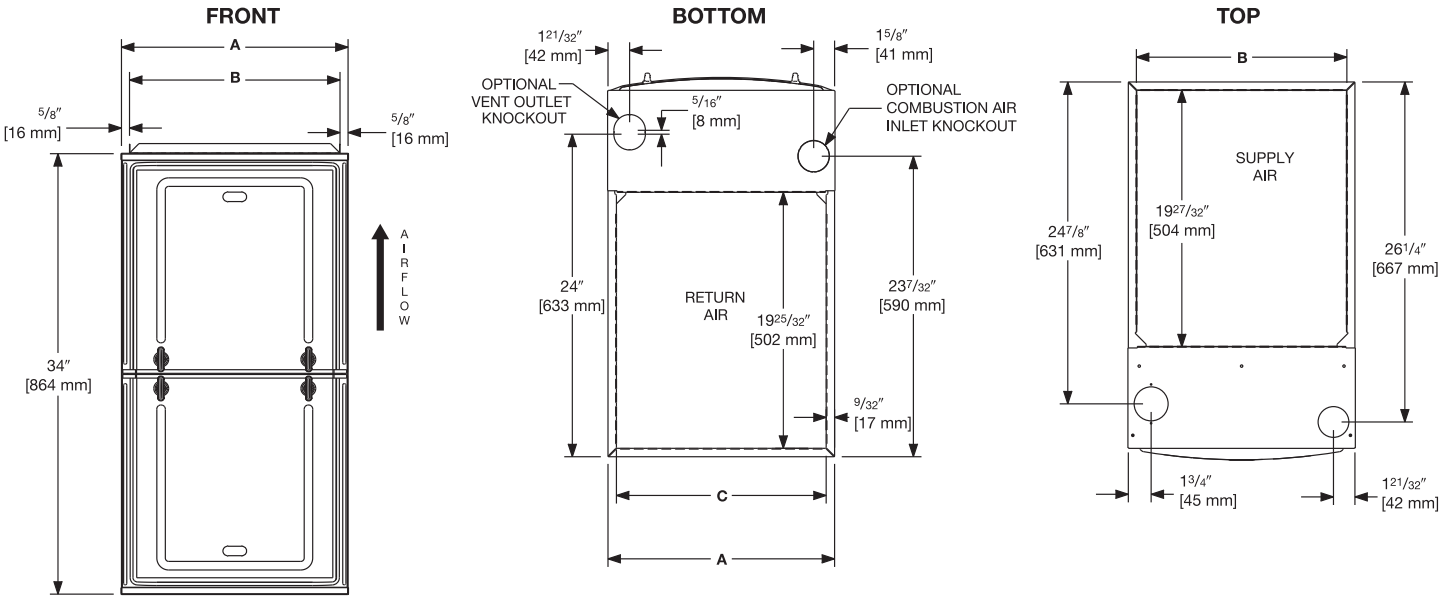
NOTE: Standard model complies with California low NOx requirements up to 40ng/J.

This furnace does not meet air district requirements of 14 ng/J NOx emissions limit, and thus is subject to a mitigation fee of up to \$450.

This furnace is to be installed for propane firing only in air districts requiring 14 ng/J NOx emission limits. Operating in natural gas mode is in violation of these Rules.

[] Designates Metric Conversions

Upflow Application



Unit Dimensions (Clearance to Combustibles)

MODEL FR972V	LEFT SIDE	MINIMUM CLEARANCE (IN.) [mm]					FLANGE DIMENSIONS		
		RIGHT SIDE	BACK	TOP	FRONT	VENT	A	B	C
040	0	0	0	1 [25]	2 [51]	0	17 1/2 [445]	16 17/64 [413]	16 13/64 [412]
060	0	0	0	1 [25]	2 [51]	0	17 1/2 [445]	16 17/64 [413]	16 13/64 [412]
070	0	0	0	1 [25]	2 [51]	0	17 1/2 [445]	16 17/64 [413]	16 13/64 [412]
070 (wide)	0	0	0	1 [25]	2 [51]	0	21 [533]	19 49/64 [502]	19 45/64 [500]
085	0	0	0	1 [25]	2 [51]	0	21 [533]	19 49/64 [502]	19 45/64 [500]
100	0	0	0	1 [25]	2 [51]	0	21 [533]	19 49/64 [502]	19 45/64 [500]
115	0	0	0	1 [25]	2 [51]	0	24 1/2 [662]	23 17/63 [591]	23 13/64 [589]

[] Designates Metric Conversions

Blower Performance Data

TARGET GAS HEATING AIRFLOWS							
	FR972V0403 A17UPSCAP	FR972V0603 A17UPSCAP	FR972V0703 A17UPSCAP	FR972V0705 A21UPSCAP	FR972V0855 A21UPSCAP	FR972V1005 A21UPSCAP	FR972V1155 A24UPSCAP
Furnace Lo Heat CFM A (factory)	870 [411]	990 [467]	1030 [486]	1200 [566]	1230 [580]	1250 [590]	1550 [732]
Furnace Lo Heat CFM B (side return)	870 [411]	1070 [505]	1156 [445]	1375 [649]	1370 [647]	1426 [673]	1645 [776]
Furnace Lo Heat CFM C (Approx. +7°F)	783 [370]	872 [412]	942 [445]	1080 [510]	1082 [511]	1162 [549]	1260 [595]
Furnace Lo Heat CFM D (Approx. +12°F)	722 [341]	802 [379]	867 [409]	996 [470]	997 [471]	1070 [505]	1162 [548]
Furnace Hi Heat CFM A (factory)	990 [468]	1100 [520]	1200 [566]	1375 [649]	1380 [651]	1440 [680]	1750 [826]
Furnace Hi Heat CFM B (side return)	990 [468]	1188 [561]	1296 [612]	1550 [732]	1520 [717]	1691 [798]	1800 [850]
Furnace Hi Heat CFM C (Approx. +7°F)	891 [421]	990 [468]	1080 [510]	1170 [553]	1242 [586]	1409 [665]	1485 [701]
Furnace Hi Heat CFM D (Approx. +12°F)	822 [388]	913 [431]	996 [470]	1079 [510]	1146 [541]	1299 [614]	1370 [647]

[] Designates Metric Conversions

Vent Termination Kits:

- RXGY-E02:** Vertical/Horizontal Concentric Vent Termination Kit 2" Pipe (US Only)
- RXGY-E02A:** Vertical/Horizontal Concentric Vent Termination Kit 2" Pipe (US & Canadian)
- RXGY-E03:** Vertical/Horizontal Concentric Vent Termination Kit 3" Pipe (US Only)
- RXGY-E03A:** Vertical/Horizontal Concentric Vent Termination Kit 3" Pipe (US & Canadian)
- RXGY-G02:** Direct Vent Furnace Side Wall Vent 2" or 3" (US Only)
- RXGY-D05:** Combustion Air Drain Kit 2"
- RXGY-D06:** Combustion Air Drain Kit 3"
- NEUTRALIZER KIT:** RXGY-A01
(Replacement Cartridge 54-22120-01)
- FOSSIL FUEL KIT:** RXPF-F01, RXPF-F02 (TVA)
- EXTERNAL BOTTOM FILTER (UPFLOW) RACK:** RXGF-CB
- EXTERNAL SIDE (UPFLOW) FILTER RACK:** RXGF-CD

FILTER RACK FILTER SIZES* INCHES [mm]		
MODEL	RXGF-CB (UPFLOW)	RXGF-CD (UPFLOW)
FR972V040	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR972V060	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR972V070	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR972V070 (wide)	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR972V085	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR972V100	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR972V115	22 ³ / ₄ x 25 [578 x 635]	15 ³ / ₄ x 25 [400 x 635]

*Filter racks are shipped without filters.
Filters shipped with furnace may be used or a suitable 1" [25.4 mm] filter.

[] Designates Metric Conversions

For High Altitudes:

- NOTE:** For Canadian installations only, an optional derate (manifold gas pressure reduction) method may be used to adjust the furnace for altitude. See Installation Instructions for more information. This optional method may **NOT** be used for U.S. installations. See installation instructions as appropriate orifice change is required.
- STAINLESS STEEL BURNERS:** 75-104227-07
- L.P. CONVERSION KIT:** RXGJ-FP49
- CONDENSATE PUMP KIT:** PROSTOCK & 1PCB151TUL
- COMBUSTIBLE FLOOR BASE:** RXGC-B17
RXGC-B21
RXGC-B24

Indoor Coil Casings

MODEL NUMBER
RXBC-D17A1
RXBC-D21A1
RXBC-D21B1
RXBC-D24A1



When installed with applicable smart Friedrich residential heating & cooling and water heating products, the EcoNet Smart Thermostat works with those products to create a complete communicating ecosystem.

THE ECONET SMART THERMOSTAT

BUILT-IN WIFI

4.3" LCD TOUCH SCREEN

LOCAL WEATHER – Current conditions plus 6-day forecast

5 OPERATING MODES – Heat, Cool, Auto, Emergency Heat and Fan Only

7-DAY PROGRAMMABLE SCHEDULE – Offers comfort without thought

ONE-TOUCH AWAY – Quickly switch to your energy-saving away preferences

VACATION SCHEDULING – Allows you to save while you're away and come home to comfort

STANDBY SCREEN – Displays indoor temperature and current weather



CETST900SYS

OPERATIONAL FEATURES

AUTOMATIC CHANGEOVER – Transitions between heating and cooling automatically to keep the house comfortable

INTEGRATED WATER CONTROL – Enables easy water heater management

SMOOTH ARRIVAL – Prompts the system to start ahead of schedule to ensure the home is at the desired temperature at the scheduled time

HUMIDITY CONTROL – Supports humidifier accessories or over-cool based dehumidification

DETAILED OPERATING STATUS – View pertinent equipment status information and run times

CONTINUOUS FAN – Offers 5 speeds (Low, Medium Low, Medium, Medium High, High)

SHORT-CYCLE PROTECTION – Avoids damage to equipment from short run cycles

MONITORING & REMOTE CONTROL FEATURES

ACTIVE MONITORING – Alerts to problems that need immediate attention

REMOTE CONTROL – Allows adjusting of comfort and settings from anywhere using a mobile device

SERVICE ALERTS – Sends routine maintenance reminders

AIR FILTER MONITORING – Detects when it's time to replace the air filter

ALARM HISTORY – Displays time-stamped alarm codes with clear descriptions



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GENERAL TERMS OF LIMITED WARRANTY*

Friedrich® will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

*For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.

Conditional Unit Replacement (Registration Required).....	Ten (10) Years
Heat Exchanger.....	Limited Lifetime
Parts	Ten (10) Years

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

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In keeping with its policy of continuous progress and product improvement, manufacturer reserves the right to make changes without notice.

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