



FRIEDRICH

1 8 8 3

Endeavor® Line F-Series™ Gas Furnaces



FR801V Ultra Low NOx

80% A.F.U.E.†

EcoNet® Enabled

Heating Stages: Single Stage

Motor Type: Constant CFM

Input Rates: 50 to 100 kBTU [14.65 to 29.3 kW]

Configuration Options: Upflow/Horizontal



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

Table of Contents

Features and Benefits3

Model Number Identification4

Physical Data and Specifications5

Dimensional Data 6-7

Blower Performance Data8

Accessories 9-10

Limited Warranty11

Features and Benefits

- **Ultra Low Greenhouse Gas Emissions:** Certified unit meets 14ng/j NOx emission standard – reducing NOx emissions by 65%
- **PlusOne® Diagnostics:** With the Rheem 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 Rheem Contractor App
- **PlusOne Ignition System:** Proven Direct Spark Ignition (DSI) for reliability and longevity
- **Constant CFM Motor:** Truly variable speed technology allows for ultimate 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

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>80</u>	<u>1</u>	<u>V</u>	<u>050</u>	<u>4</u>	<u>A</u>	<u>17</u>	<u>UH</u>	<u>U</u>	<u>C</u>	<u>A</u>	<u>P</u>
Brand	Furnace Efficiency	Stages of Heating	Motor Type	Heating Input (BTUH)	AC Max. Capacity	Major Series	Width	Position	NOx	Controls	Minor Series	Option Code
FR - Friedrich®	80 - 80% AFUE	1 - Single-Stage	V - ECM Variable Speed	050 - 50,000 [14.7 kW] 070 - 70,000 [20.5 kW] 100 - 100,000 [29.3 kW]	4 - 4 ton drive 5 - 5 ton drive	A - 1st Design Series	17 - 17.5" Width 21 - 21" Width	UH - Upflow Horizontal	U - Ultra Low NOx	C - Communicating, EcoNet, Bluetooth	A - 1st Series	P - Premium Grade

[] Designates Metric Conversions

AVAILABLE MODELS
FR801V0504A17UHUCAP
FR801V0704A17UHUCAP
FR801V1005A21UHUCAP

STANDARD EQUIPMENT
100% Safety Lock Out
2 Stage Cooling
3 way multi poise design Upflow/Horizontal
Blower Compartment Door Safety Switch
Bluetooth enabled diagnostics and app setup
Bluetooth Set Up, Diagnostics & marked hoses for ease of installation
Complete assembly and wiring
Condensate Switch Connection
Constant CFM Variable Speed Motor
Cool Fan Off Delay
Direct Drive
Electronic Air Cleaner Connections
EXV Connection
Flame Sense Current Diagnostics
Fully Insulated Heat Exchanger Cabinet
Furnace Diagnostics- 7 Segment LED All Units
Humidifier Connections
Limit Controls
Low Speed Continuous Fan Option
Manual Shut-Off Valve
On Demand Dehumidification
One-Hour Automatic Retry
Outdoor Air Temperature Connection
Power and Self-Test Diagnostics
Pressure Switches
Primary aluminized steel heat exchanger
Solid bottom
Blower Insulation
Redundant Main Gas Control
Return Air Temp Sensor Connection
Suction Pressure/Evap. Temperature Connection
Suction Temperature Connection
Supply Air Temperature Connection
Transformer
Variable Speed 3 Phase Induced Draft Motor

NOTE: A thermostat is not included as standard equipment

WARNING

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

Physical Data and Specifications – Upflow Models

MODEL NUMBERS FR801V 1stg VS-CT UP/HZ SERIES	FR801V0504A17UHUCAP	FR801V0704A17UHUCAP	FR801V1005A21UHUCAP
Input-BTU/Hr [kW]	50,000 [15]	70,000 [20.5]	100,000 [29]
Heating Capacity BTU/Hr [kW] ①	40,000 [12]	56,000 [16.4]	80,000 [23]
Heat Ext. Static Pressure [kPa]	.18 [.05]	.20 [.05]	.28 [.07]
Blower (D x W) [mm]	11 x 6 [279 x 152]	11 x 7 [279 x 178]	11 x 10 [279 x 254]
Motor H.P. [W] Type	3/4 [373] VS-CT(ECM)	3/4 [560] VS-CT(ECM)	1 [746] VS-CT(ECM)
Min. Circuit Ampacity	14	14	15
Min. Overload Protection Device	20	20	20
Max. Overload Protection Device	20	20	20
Motor Full Load Amps	9.6	9.6	12.4
Heating CFM [L/s]	735 [334]	1020 [464]	1525 [693]
MAX Cooling CFM [L/s]	1650 [779]	1650 [779]	1980 [934]
MIN Cooling CFM [L/s]	300 [142]	300 [142]	500 [236]
Fan CFM [L/s]	800 [378]	800 [378]	1000 [472]
Max. E.S.P. (In. W.C.) [kPa]	1.0 [0.25]	1.0 [0.25]	1.0 [0.25]
Temperature Rise Range °F [°C]	35-65 [19.4-36.1]	35-65 [19.4-36.1]	35-65 [19.4-36.1]
Approx. Shipping Weight (Lbs.) [kg]	127 [58]	132.5 [60]	147.5 [60]
AFUE ②	80.0%	80.0%	80.0%

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

① This model does not require any component changes at elevations 0-5,500 ft. above sea level. At elevations higher than 2,000 ft. these models do require a 2% de-rate for every 1,000 ft. of elevation above sea level.

② In accordance with D.O.E test procedures.

This furnace meets air district requirements of 14 ng/J NOx emissions limit.

[] Designates Metric Conversions

Upflow Application

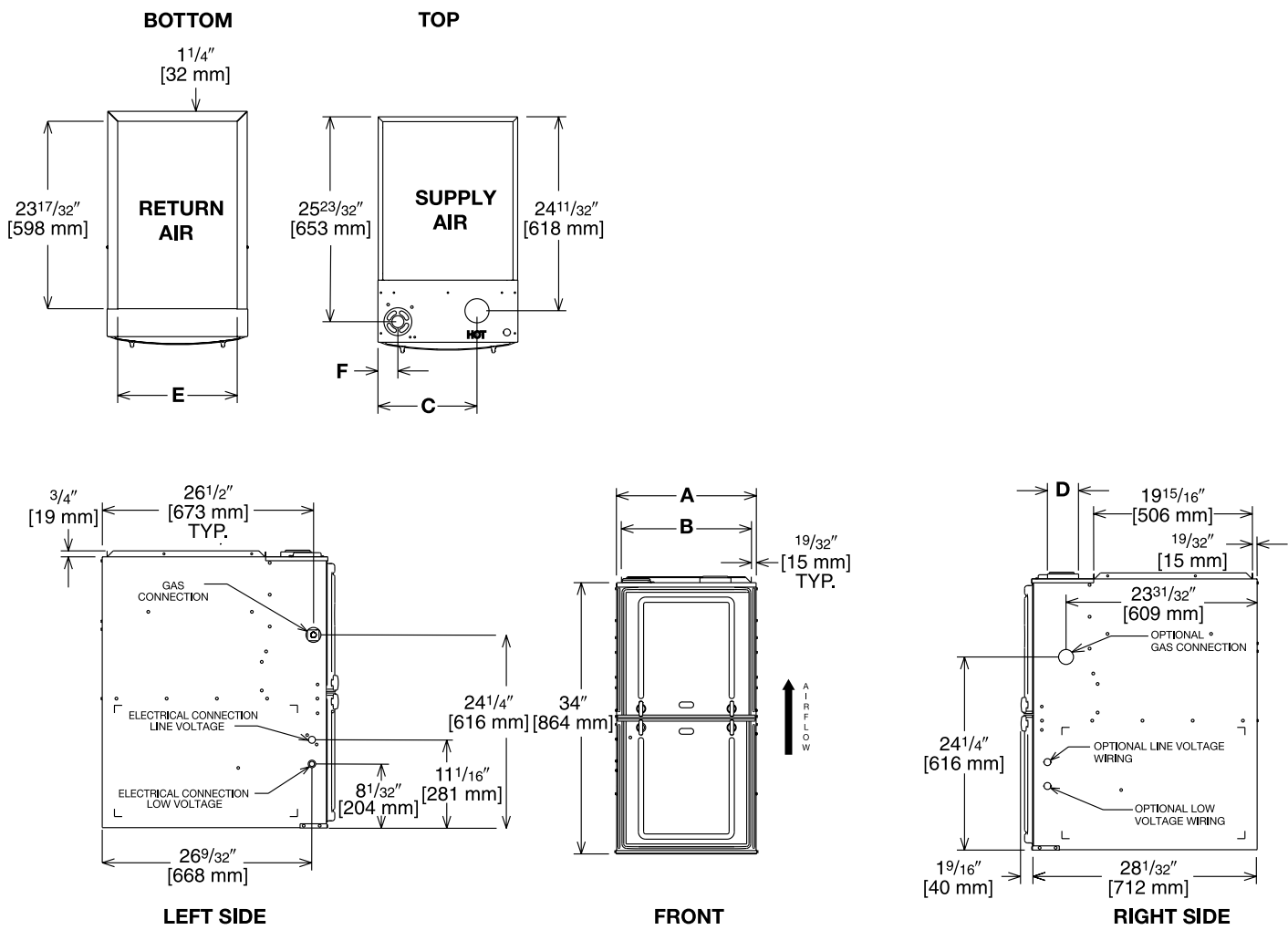


Illustration
ST-A1220-04-00
FIGURE 1

Dimensional Data – Upflow Model

MODEL FR801V-ULN	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]					
							LEFT SIDE	RIGHT SIDE	BACK	TOP	FRONT	VENT
050/070	17 1/2 [445]	16 11/32 [415]	12 3/8 [314]	①	15 [381]	2 1/2 [64]	0	3 [76] ②	0	1 [25]	3 [76]	6 [152] ③
100	21 [533]	19 27/32 [504]	14 1/8 [359]	①	18 1/2 [470]	2 1/2 [64]	0	0	0	1 [25]	3 [76]	6 [152] ③

NOTES: ① May require a 3" [76 mm] to 4" [102 mm] or 3" [76 mm] to 5" [127 mm] adapter.
② May be 0" [0 mm] with type B vent.
③ May be 1" [25 mm] with type B vent.
Furnaces must be vented in accordance with the National Fuel Gas Code, ANSI Z223.1 and in accordance with local codes.

[] Designates Metric Conversions

Blower Performance Data

TARGET GAS HEATING AIRFLOWS			
	FR801V0504A17UHUCAP	FR801V0704A17UHUCAP	FR801V1005A21UHUCAP
Factory High Heating CFM [L/s]	735 [334]	1020 [464]	1525 [693]
High Heat Side Return CFM [L/s]	794 [361]	1100 [500]	1647 [749]
High Heat Approx. ±7°F CFM	662 [301]	918 [417]	1373 [624]
High Heat Approx. ±12°F CFM	611 [278]	847 [385]	1266 [575]

[] Designates Metric Conversions

**BOTTOM RETURN FILTER RACK FOR
UPFLOW APPLICATION: RXGF-CB**

SIDE RETURN FILTER RACK: RXGF-CD

FILTER RACK FILTER SIZES* INCHES [mm]		
MODEL	RXGF-CB (UPFLOW/ HORIZONTAL)	RXGF-CD (UPFLOW) SIDE RETURN
FR801VA050/ FR801VA070	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR801VA100	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]

WARNING - Taking return air from back of the furnace is NOT permitted.

Indoor Coil Casings

MODEL NUMBER
RXBC-D17AI
RXBC-D21AI
RXBC-D21BI
RXBC-D24AI

[] Designates Metric Conversions

WARNING: IMPORTANT NOTICE

A SOLID METAL BASE PLATE (SEE TABLE) MUST BE IN PLACE WHEN THE FURNACE IS INSTALLED WITH SIDE AIR RETURN DUCTS. FAILURE TO INSTALL A BASE PLATE COULD CAUSE PRODUCTS OF COMBUSTION TO BE CIRCULATED INTO THE LIVING SPACE AND CREATE POTENTIALLY HAZARDOUS CONDITIONS.

FURNACE WIDTH IN. [mm]	SOLID BOTTOM KIT NO.	BASE PLATE NO.	BASE PLATE SIZE IN. [mm]
17 ¹ / ₂ [445]	RXGB-D17	AE-61874-02	15 ¹ / ₈ x 23 ⁹ / ₁₆ [384 x 598]
21 [533]	RXGB-D21	AE-61874-03	18 ⁵ / ₈ x 23 ⁹ / ₁₆ [473 x 598]

For High Altitudes:

OPTION CODE FOR HIGH ALTITUDE: U.S.

None required for high altitudes.

HIGH ALTITUDE CONVERSION KITS: U.S.

None required for high altitudes.

80+ HIGH ALTITUDE INSTRUCTIONS

CAUTION: Always follow National Fuel Gas Code (NFPA) guidelines when converting for high altitudes.

High altitude option codes are not required for these models. However, the burner orifice size needs to be recalculated and verified at elevations above 2000 ft. See Installation Instructions for more information.



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



FRIEDRICH

1 8 8 3

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 Parts (Registration Required).....	Ten (10) Years
Heat Exchanger	Twenty (20) 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.

© 2026 Rheem Manufacturing Company. Trademarks are property of their respective owners.

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

5600 Old Greenwood Road
Fort Smith, Arkansas 72908 • Friedrich.com

125 Edgeware Road, Unit 1
Brampton, Ontario • L6Y 0P5