



FRIEDRICH

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Endeavor™ Line *F-Series* Gas Furnaces



FR801V

80% A.F.U.E.†

EcoNet® Enabled

Heating Stages: Single Stage

Motor Type: Constant CFM

Input Rates: 50-125 kBTU [14.65-36.63 kW]

Configuration Options: Upflow/Horizontal



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

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Features and Benefits

- **PlusOne® Diagnostics:** With the Friedrich® Contractor & EcoNet® Apps, built-in EcoNet® & Bluetooth® technology makes monitoring, troubleshooting and repairing the product easier than ever before
- **Dip Switch Free Installation Commissioning via Bluetooth®¹ 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
- **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

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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, Alex 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>50</u>	<u>3</u>	<u>A</u>	<u>14</u>	<u>UH</u>	<u>S</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] 075 - 75,000 [22.0 kW] 100 - 100,000 [29.3 kW] 125 - 125,000 [36.6 kW]	3 - 3 ton drive 4 - 4 ton drive 5 - 5 ton drive	A - 1st Design Series	14 - 14" Width 17 - 17.5" Width 21 - 21" Width 24 - 24.5" Width	UH - Upflow Horizontal	S - Standard N - Low NOx	C - Communicating, EcoNet®	A - 1st Series	P - Premium Grade

[] Designates Metric Conversions

AVAILABLE MODELS
FR801V0503A14UH*CAP
FR801V0504A17UH*CAP
FR801V0754A17UH*CAP
FR801V0755A21UH*CAP
FR801V1005A21UH*CAP
FR801V1255A24UH*CAP

* S = Standard, N = Low NOx

STANDARD EQUIPMENT
100% Safety Lock Out
29-4C Stainless Steel Secondary Heat Exchanger Design
Adjustable Cool Fan Off Delay
Aluminized steel primary heat exchanger design
Blower Compartment Door Safety Switch
Bluetooth® diagnostics
Bluetooth® setup
Bluetooth® setup and diagnostics
Completely assembled and wired
Direct Drive Motor
EcoNet® Thermostat Connections
Electronic On/Off Blower Time Control
Fully Insulated Heat Exchanger Cabinet
Humidistat Terminal Connection
Induced Draft Motor
Limit Controls
Low Speed Continuous Fan Option
Manual Shut-Off Valve
Marked condensate hoses
One Hour Automatic Retry
Power And Self-Test Diagnostics
Pressure Switch
PWM Controlled Constant Torque Electrically Commutated Blower Motor
Redundant Main Gas Control
Single Stage Heating Thermostat Connection
Solid Bottom
Blower Insulation
Two Plus* Stage Cooling Thermostat Connection

NOTE: A thermostat is not included as standard equipment
*When Connected to Three Speed Or Modulating AC/HP Product

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	FR801V 0503A14UH*CAP	FR801V 0504A17UH*CAP	FR801V 0754A17UH*CAP	FR801V 0755A21UH*CAP	FR801V 1005A21UH*CAP	FR801V 1255A24UH*CAP
Input-BTU/Hr [kW]	50,000 [15]	50,000 [15]	75,000 [22]	75,000 [22]	100,000 [29]	125,000 [37]
Heating Capacity BTU/Hr [kW] ①	40,000 [12]	40,000 [12]	60,000 [18]	60,000 [18]	80,000 [23]	100,000 [29]
Blower (D x W) [mm]	11 x 6 [279 x 152]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
Motor H.P. [W] Type	1/2 [373] VS-CT(ECM)	3/4 [560] VS-CT(ECM)	3/4 [560] VS-CT(ECM)	1 [746] VS-CT(ECM)	3/4 [560] VS-CT(ECM)	3/4 [560] VS-CT(ECM)
Min. Circuit Ampacity	9	13	9	15	12	12
Min. Overload Protection Device	15	15	15	20	15	15
Max. Overload Protection Device	15	20	15	25	15	15
Motor Full Load Amps	6.1	9.6	9.6	12.4	9.6	9.6
Heating CFM [L/s]	960 [453]	930 [439]	1450 [684]	1425 [673]	1550 [732]	1900 [897]
MAX Cooling CFM [L/s]	1240 [585]	1650 [779]	1650 [779]	1980 [934]	1980 [934]	1980 [934]
MIN Cooling CFM [L/s]	300 [142]	500 [236]	500 [236]	500 [236]	500 [236]	500 [236]
Fan CFM [L/s]	600 [283]	800 [378]	800 [378]	1000 [472]	1000 [472]	1000 [472]
Max. E.S.P. (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]
Temperature Rise Range °F [°C]	25-55 [13.9-30.6]	25-55 [13.9-30.6]	25-55 [13.9-30.6]	25-55 [13.9-30.6]	35-65 [19.4-36.1]	40-70 [23-39]
Approx. Shipping Weight (Lbs.) [kg]	104.5 [47]	110 [50]	117.5 [53]	135 [61]	140 [64]	143.5 [65]
AFUE ②	80.0%	80.0%	80.0%	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 In accordance with D.O.E. test procedures.

② See Conversion Kit Index Form for high altitude derate.

*S=Standard, N=Low NOx

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

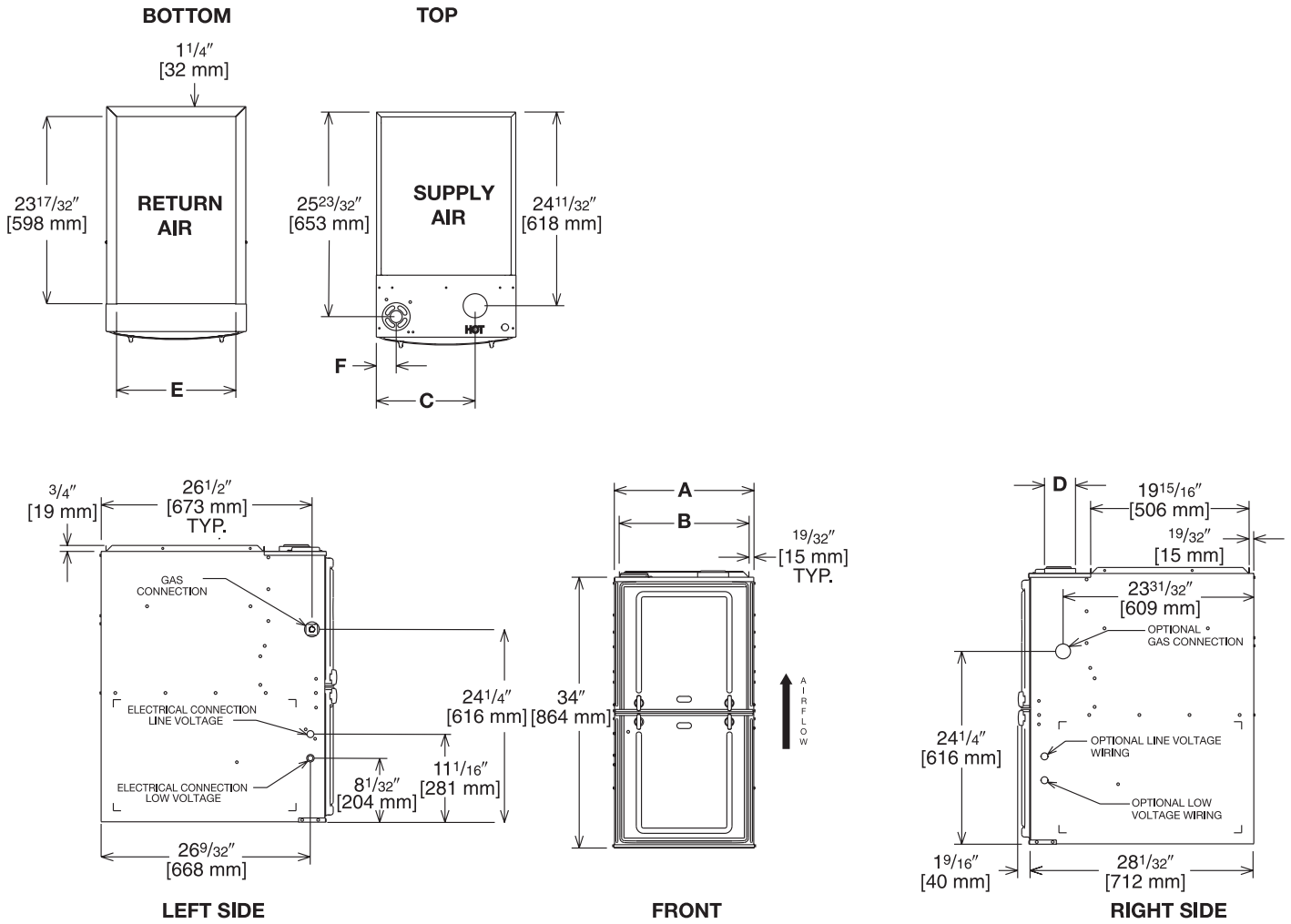


Illustration
ST-A1220-04-00
FIGURE 1

Dimensional Data: Upflow Model

MODEL FR801V-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]					
							LEFT SIDE	RIGHT SIDE	BACK	TOP	FRONT	VENT
050314	14 [356]	$12\frac{27}{32}$ [326]	$10\frac{5}{8}$ [270]	①	$11\frac{1}{2}$ [292]	$1\frac{7}{8}$ [48]	0	4 [102] ②	0	1 [25]	3 [76]	6 [152] ③
050417/75417	$17\frac{1}{2}$ [445]	$16\frac{11}{32}$ [415]	$12\frac{3}{8}$ [314]	①	15 [381]	$2\frac{1}{2}$ [64]	0	3 [76] ②	0	1 [25]	3 [76]	6 [152] ③
075521/100	21 [533]	$19\frac{27}{32}$ [504]	$14\frac{1}{8}$ [359]	①	$18\frac{1}{2}$ [470]	$2\frac{1}{2}$ [64]	0	0	0	1 [25]	3 [76]	6 [152] ③
125	$24\frac{1}{2}$ [622]	$23\frac{11}{32}$ [593]	$15\frac{7}{8}$ [403]	①	22 [559]	$2\frac{1}{2}$ [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.

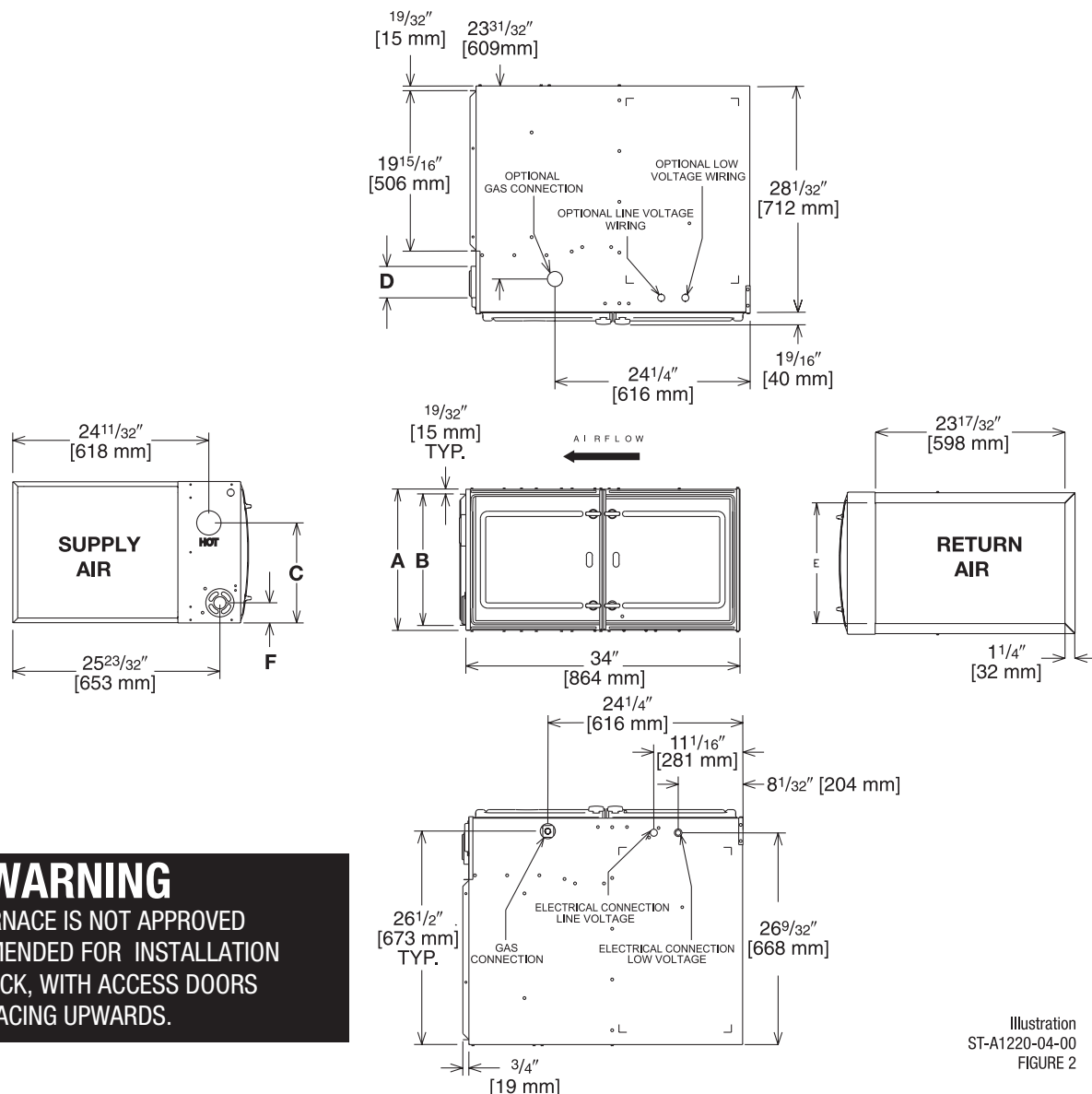
② May be 0" [0 mm] with type B vent.

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

Horizontal Application



WARNING
THIS FURNACE IS NOT APPROVED
OR RECOMMENDED FOR INSTALLATION
ON ITS BACK, WITH ACCESS DOORS
FACING UPWARDS.

Illustration
ST-A1220-04-00
FIGURE 2

Dimensional Data: Horizontal Model

MODEL FR801V-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]					
							SUPPLY AIR SIDE	RETURN AIR SIDE	BACK	TOP	FRONT	VENT
050314	14 [356]	12 ²⁷ / ₃₂ [326]	10 ⁵ / ₈ [270]	①	11 ¹ / ₂ [292]	1 ⁷ / ₈ [48]	4 [102] ②	4 [102] ②	0	1 [25]	3 [76]	6 [152] ③
050417/75417	17 ¹ / ₂ [445]	16 ¹¹ / ₃₂ [415]	12 ³ / ₈ [314]	①	15 [381]	2 ¹ / ₂ [64]	3 [76] ②	3 [76] ②	0	1 [25]	3 [76]	6 [152] ③
075521/100	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
125	24 ¹ / ₂ [622]	23 ¹¹ / ₃₂ [593]	15 ⁷ / ₈ [403]	①	22 [559]	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

FR801V UH

TARGET GAS HEATING AIRFLOWS						
	FR801V 0503A14UH*CAP	FR801V 0504A17UH*CAP	FR801V 0754A17UH*CAP	FR801V 0755A21UH*CAP	FR801V 1005A21UH*CAP	FR801V 1255A24UH*CAP
Factory High Heating CFM [L/s]	960 [453]	930 [439]	1450 [684]	1425 [673]	1550 [732]	1900 [897]
High Heat Side Return CFM [L/s]	960 [453]	930 [439]	1450 [684]	1425 [673]	1380 [651]	1900 [897]
High Heat Approx. $\pm 7^{\circ}\text{F}$ CFM	864 [408]	837 [395]	1305 [616]	1283 [606]	1395 [658]	1710 [807]
High Heat Approx. $\pm 12^{\circ}\text{F}$ CFM	796 [376]	772 [364]	1204 [568]	1183 [558]	1287 [607]	1577 [744]

* S = Standard, N = Low NOx

[] 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
FR801V050	12 ¹ / ₄ x 25 [311 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR801V0754A17	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR801V0754A21/ FR801V100	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]
FR801V125	22 ³ / ₄ x 25 [578 x 635]	15 ³ / ₄ x 25 [400 x 635]

4" FLUE ADAPTER: RXGW-C01

Indoor Coil Casings

MODEL NUMBER
RXBC-D14AI
RXBC-D17AI
RXBC-D21AI
RXBC-D21BI
RXBC-D24AI

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]
14 [356]	RXGB-D14	AE-61874-01	11 ⁵ / ₈ x 23 ⁹ / ₁₆ [295 x 598]
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]
24 ¹ / ₂ [622]	RXGB-D24	AE-61874-04	25 ⁵ / ₈ x 23 ⁹ / ₁₆ [651 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 (NFGC) 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.

[] Designates Metric Conversions

Integrated Controls



EcoNet® is smart, technology that allows Heating and Cooling, products to communicate with each other on one integrated network.

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



CETST800SYS

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 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.

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