Ruud *Achiever Plus*® Series Upflow/Horizontal Ultra Low NOx Gas Furnace

R801V- Upflow/Horizontal Series

80% A.F.U.E.†
Input Rates 50-100 kBTU

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

- Certified Unit meets 14ng/j NOx emission standard
- Environmentally friendly and responsible product that reduces NOx emissions by 65%
- 80% residential Gas Furnace CSA certified
- 3 way multi poise design UF / HZ
- PlusOne™ Diagnostics — 7 Segment LED all units
- PlusOne™ Ignition System – DSI for reliability and longevity
- Heat exchanger is removable for improved serviceability. Stainless/Aluminized steel construction provides maximum corrosion resistance and thermal fatigue reliability.
- Solid doors provide quiet operation
- Solid bottom
- Insulated blower compartment
- Low profile 34" cabinet ideal for space constrained installations
- Blower shelf design – serviceable in all furnace orientations
- Hemmed edges on cabinets and doors
- 1/4 turn door knobs for tool less access
- Integrated Control board features dip switches for easy system set up
- QR code for quick access to product information from your smart phone or tablet
- ECM motor provides constant CFM for single and two-stage cooling and heat pump products.
- Cabinet air leakage less than 2% at 1 inch H_2O when tested in accordance with ASHRAE standard 193

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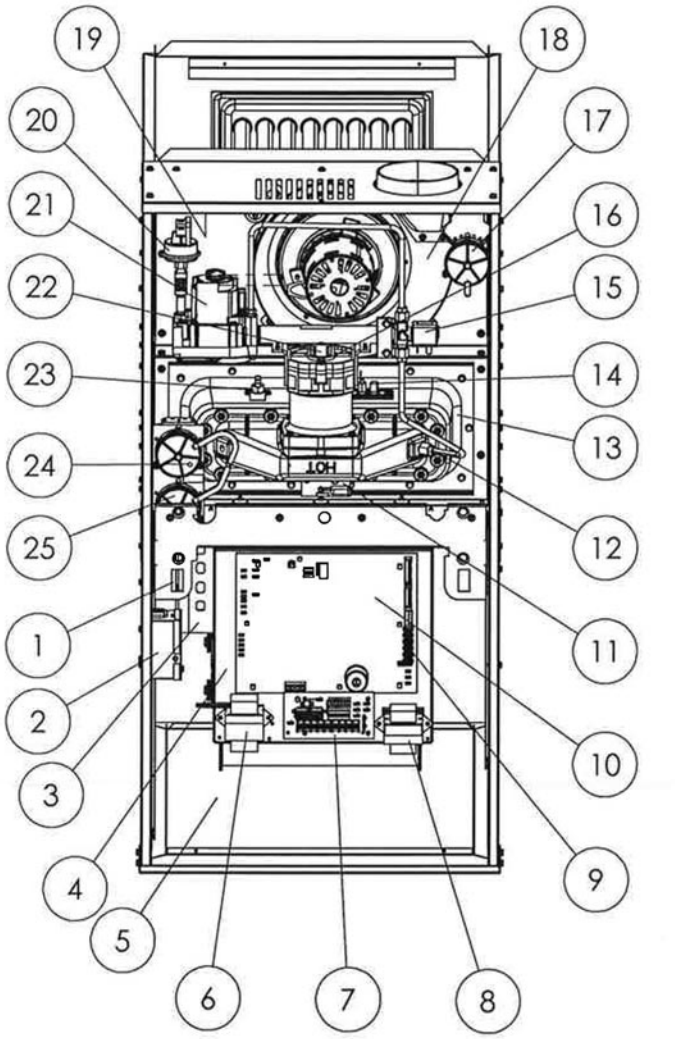

ITEM NO. DESCRIPTION

1. DOOR SWITCH
2. JUNCTION BOX
3. ECM BLOWER MOTOR
4. CONTROL MOUNTING PLATE
5. SOLID METAL BASE PAN
6. POWER FACTOR CHOKE
7. ECM INTERFACE CONTROL
8. TRANSFORMER
9. LOW VOLTAGE TERMINALS
10. FURNACE CONTROL
11. FLAME LED BOARD (ALT FLAME LIGHT)
12. PILOT ORIFICE
13. BURNER ASSEMBLY
14. IGNITOR/FLAME SENSE
15. PILOT SOLENOID (PLSD)
16. COMBUSTION AIR INLET / FILTER (if equipped)
17. AIR INLET PRESSURE SWITCH (AIPS)
18. INDUCED DRAFT BLOWER
19. MAIN LIMIT
20. GAS PRESSURE SWITCH
21. GAS VALVE W/PILOT
22. ORIFICE
23. OVER-TEMPERATURE SWITCH (X3)
24. COMBUSTION PRESSURE SWITCH IGNITION
25. PRESSURE SWITCH

Illustration
ST-A1252-27-02

STANDARD EQUIPMENT

Completely assembled and wired; induced draft; pressure switch; redundant main gas control; blower compartment door safety switch; solid state time on/time off blower control; limit control; manual shut-off valve, pressure regulator for natural gas; transformer; direct drive constant speed blower motor. Furnaces are equipped with cooling/heating relay and transformer (40VA) ready for air conditioning and two-stage heat pump applications. (Please note: a thermostat is not included as standard equipment.) Flame sensor diagnostics.

OPTIONAL EQUIPMENT

Side and bottom filter frame assembly. Return air cabinet for all sizes.

NOTE: Furnace is not listed for use with fuel other than natural gas.

The complete terms of limited and other warranties are available at our sales office, or through local installer.

NOTE: For natural gas models, direct spark ignition is 100% safety lockout type.

WARNING

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

Model Features

- 80% residential Gas Furnace CSA certified
- 3 way multi poise design UF / HZ
- PlusOne™ Diagnostics — 7 Segment LED all units
- PlusOne™ Ignition System – DSI for reliability and longevity
- Heat exchanger is removable for improved serviceability. Aluminized steel construction provides maximum corrosion resistance and thermal fatigue reliability.
- Solid doors provide quiet operation
- Solid bottom
- Insulated blower compartment
- Low profile 34" cabinet ideal for space constrained installations
- Blower shelf design serviceable in all furnace orientations
- Hemmed edges on cabinets and doors
- 1/4 turn door knobs for tool less access
- Integrated Controls board features dip switches for easy system set up
- QR code for quick access to product information from your smart phone or tablet
- ECM motor provides constant CFM.
- ECM Interface Control for single or two-stage AC and heat pumps.

Physical Data and Specifications

MODEL NUMBERS R801V SERIES	R801VA050417MUA	R801VA070417MUA	R801VA100521MUA
Input-BTU/Hr [kW] ①	50,000 [14.6]	70,000 [20.5]	100,000 [29]
Heating Capacity BTU/Hr [kW] ②	40,000 [11.7]	56,000 [16.4]	80,000 [23.4]
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.–Speed– Type [W]	3/4 HP ECM Motor [560]	3/4 HP ECM Motor [560]	3/4 HP ECM Motor [560]
Min. Circuit Ampacity	13	13	14
Min. Overload Protection Device	15	15	15
Max. Overload Protection Device	20	20	20
Factory Heating CFM	775	1072	1349
Cooling CFM @ Rating Point [L/s]	1498 [707]	1498 [707]	1772 [836]
Max. E.S.P. (In. W.C.) [kPa]	1.0 [.25]	1.0 [.25]	1.0 [.25]
Temperature Rise Range °F [°C]	35-65 [19.4-36.1]	35-65 [19.4-36.1]	35-65 [19.4-36.1]
Max. Outlet Air Temp. °F [°C]	180 [82.2]	180 [82.2]	180 [82.2]
Approx. Shipping Weight (Lbs.) [kg]	125 [57]	125 [57]	140 [64]
AFUE ①	80.0%	80.0%	80.0%

NOTES: All models are 115V, 60HZ, 1 Ph. Gas connection size for all models is 1/2" [12 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, and thus is eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com in SCAQMD.

[ ] Designates Metric Conversions

Model Number Identification

R	80	1	V	A	070	4	17	M	U	A
Ruud	80 = 80% AFUE	1 = Single Stage	V = Variable Speed	Design Series A = 1st Design B = 2nd Design	Input BTU/HR [kW] 050 = 50,000 [15] 070 = 70,000 [22] 100 = 98,000 [29]	4 = 1½ to 4 Ton 5 = 1½ to 5 Ton	Cabinet Width 17 = 17.5" 21 = 21"	M = Multi	U = Ultra Low NO_x	Revision-Marketing (A – First Time Release)

[ ] Designates Metric Conversions

Upflow Application

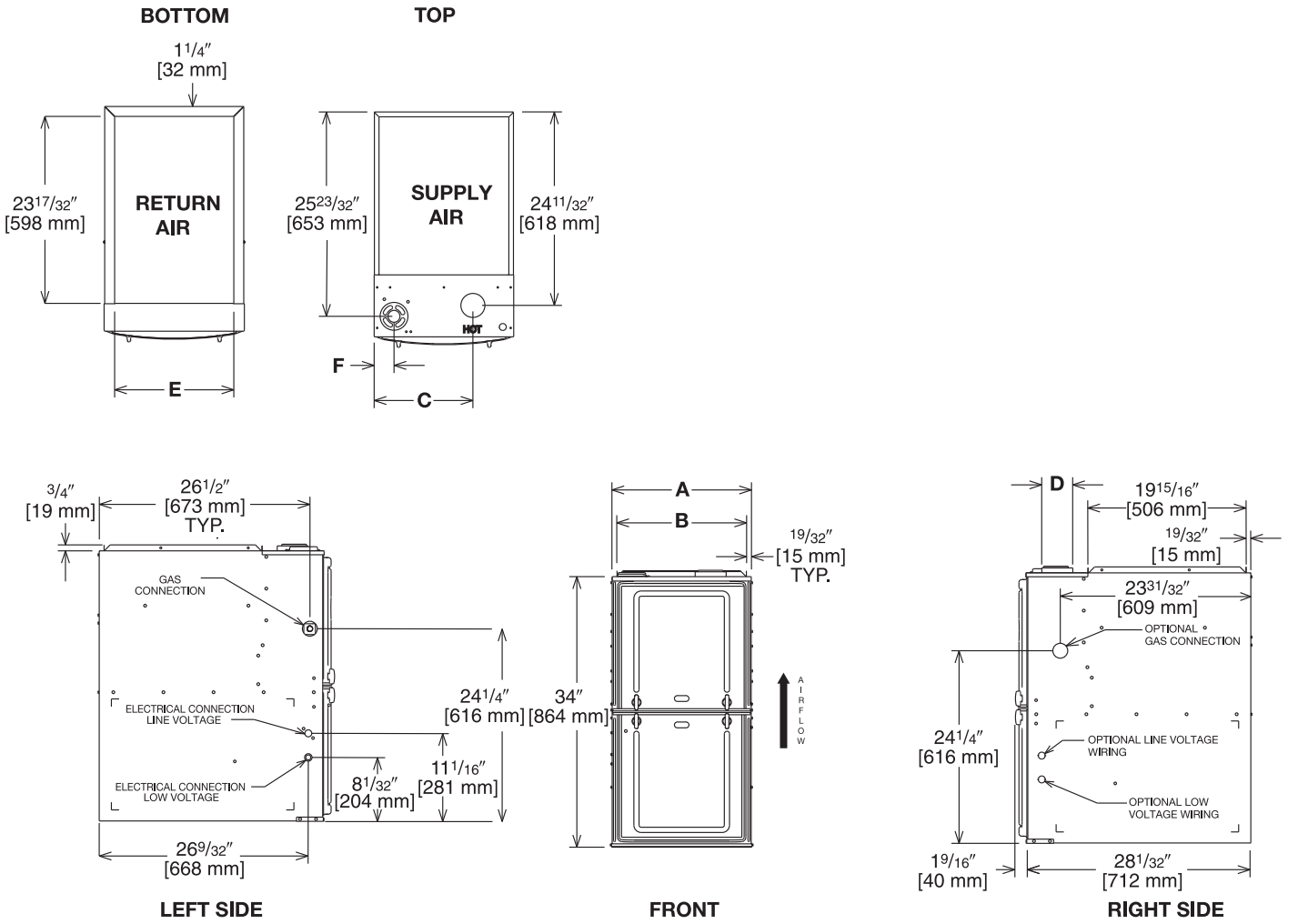

Illustration
ST-A1220-04-00
FIGURE 1

Dimensional Data: Upflow Model

MODEL R801V-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]						SHIP WGTS. (LBS.) [kg]
							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	125 [57]
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	140 [64]

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

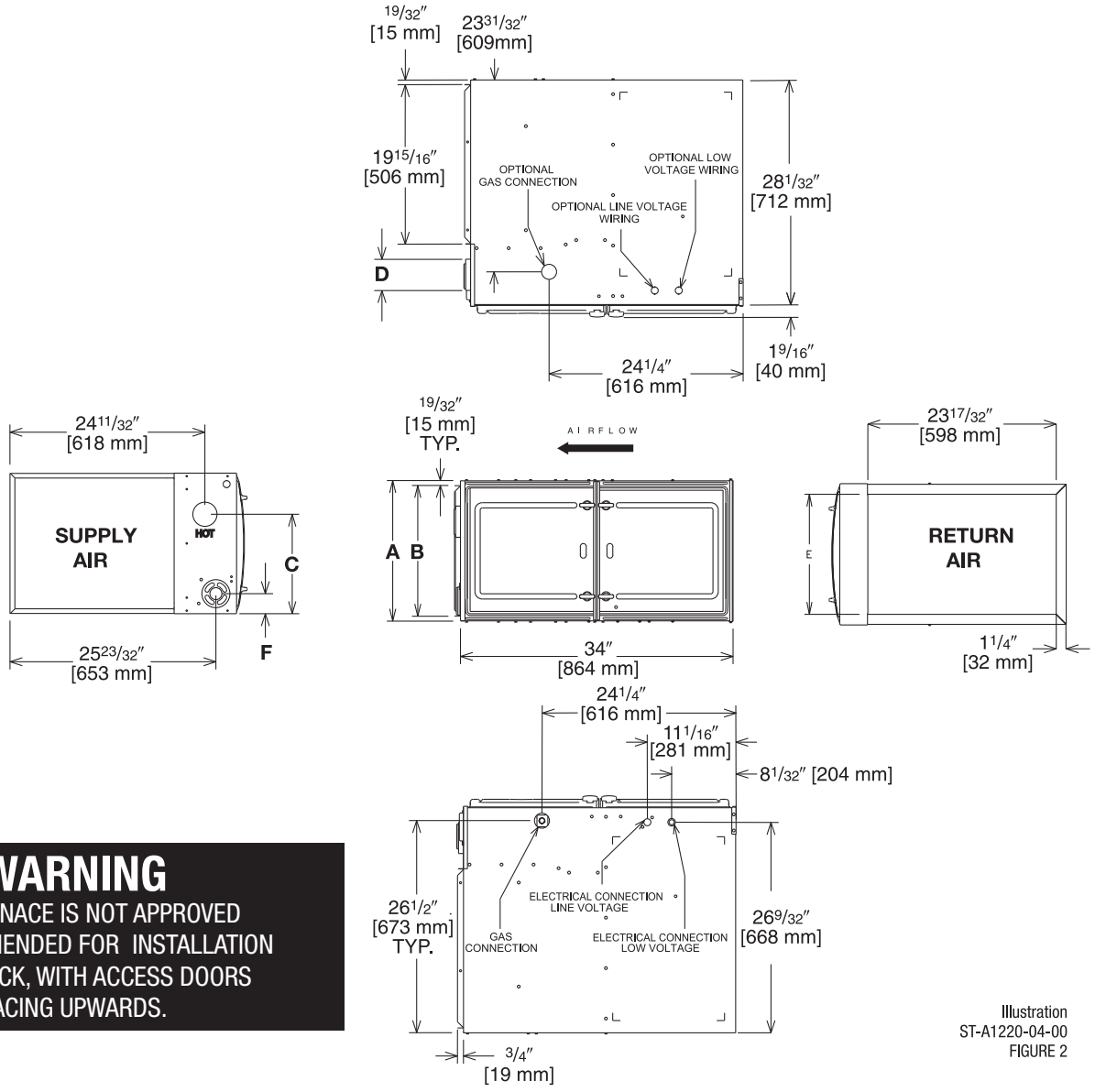

Illustration
ST-A1220-04-00
FIGURE 2

WARNING

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

Dimensional Data: Horizontal Model

MODEL R801V-	A	B	C	D	E	F	MINIMUM CLEARANCE (IN.) [mm]						SHIP WGTS. (LBS.) [kg]
							SUPPLY AIR SIDE	RETURN AIR SIDE	BACK	TOP	FRONT	VENT	
050/070	171/2 [445]	1611/32 [415]	123/8 [314]	①	15 [381]	21/2 [64]	3 [76] ②	3 [76] ②	0	1 [25]	3 [76]	6 [152] ③	125 [57]
100	21 [533]	1927/32 [504]	141/8 [359]	①	181/2 [470]	21/2 [64]	0	0	0	1 [25]	3 [76]	6 [152] ③	140 [64]

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

(-)801VA050417MUA							
	SW 1/2	Cooling	Full Ton SW 3/4			Half Ton SW 3/4	
			Tonnage	Nominal OFF/OFF	+10% ON/OFF	Tonnage	Nominal OFF/ON
Cooling / Heat Pump Air Flow	ON/OFF	High	4 TON	1498	1648	3.5 TON	1348
		Low		1124	1236		1011
	OFF/ON	High	3 TON	1121	1233	2.5 TON	1009
		Low		841	925		757
	ON/ON	High	2 TON	762	838	1.5 TON	686
		Low		572	629		514
Heating Airflow	SW 5/6	OFF/OFF	OFF/ON				
		775	698				

(-)801VA070417MUA							
	SW 1/2	Cooling	Full Ton SW 3/4			Half Ton SW 3/4	
			Tonnage	Nominal OFF/OFF	+10% ON/OFF	Tonnage	Nominal OFF/ON
Cooling / Heat Pump Air Flow	ON/OFF	High	4 TON	1498	1648	3.5 TON	1348
		Low		1124	1236		1011
	OFF/ON	High	3 TON	1121	1233	2.5 TON	1009
		Low		841	925		757
	ON/ON	High	2 TON	762	838	1.5 TON	686
		Low		572	629		514
Heating Airflow	SW 5/6	OFF/OFF	OFF/ON				
		1072	966				

(-)801VA100521MUA							
	SW 1/2	Cooling	Full Ton SW 3/4			Half Ton SW 3/4	
			Tonnage	Nominal OFF/OFF	+10% ON/OFF	Tonnage	Nominal OFF/ON
Cooling / Heat Pump Air Flow	ON/OFF	High	5 TON	1772	1949	4.5 TON	1595
		Low		1329	1462		1196
	ON/OFF	High	4 TON	1498	1648	3.5 TON	1348
		Low		1124	1236		1011
	OFF/ON	High	3 TON	1121	1233	2.5 TON	1009
		Low		841	925		757
	ON/ON	High	2 TON	762	838	1.5 TON	686
		Low		572	629		514
Heating Airflow	SW 5/6	OFF/OFF	OFF/ON				
		1349	1215				

Example: (-)801VA100521MUA requires 3-1/2 tons of air-
Switches 1/2 = ON/OFF (4-tons). Switches 3/4 = OFF/ON (reduced CFM for 3-1/2 tons)

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**
R801TA050/ R801TA070	15 3/4 x 25 [400 x 635]	15 3/4 x 25 [400 x 635]
R801TA100	19 1/4 x 25 [489 x 635]	15 3/4 x 25 [400 x 635]

4" FLUE ADAPTER: RXGW-C01

INDOOR COIL CASINGS

MODEL NUMBER
RXBC-D17AI
RXBC-D21AI
RXBC-D21BI

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]

[ ] Designates Metric Conversions

GENERAL TERMS OF LIMITED WARRANTY*

Ruud 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

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