

GAS FURNACES

RUUD
ACHIEVER
Series



90 PLUS[®] WITH *DUAL COMFORT CONTROL* TWO-STAGE DOWNFLOW/HORIZONTAL GAS FURNACES

The Ruud *Achiever Series*[®] 90 Plus with *Dual Comfort Control* line of downflow/horizontal gas furnaces are designed for utility rooms, closets, alcoves, or attics. The UGTK is shipped in the downflow configuration and is easily converted for horizontal left-hand airflow applications.

The design is certified by CSA.

Features

- Two stages of operation to save energy and maintain optimal comfort level.
- Furnace operates at 70% capacity for low-heat and 100% capacity for high-heat.
- Compatible with single or two-stage thermostat. (For optimal performance two-stage thermostat recommended.)
- Heat exchanger tubular construction is stainless steel for maximum corrosion resistance and thermal fatigue reliability.
- Low profile "34 inch" design is lighter and easier to handle and leaves room for optional accessories.
- Top electrical connections, left or right side gas, and condensate drainage connections on downflow/horizontal models.
- Integrated control board manages all operational functions and provides hookups for humidifier and electronic air cleaner.
- An insulated blower compartment, a slow-opening gas valve and a specially designed inducer system make it one of the quietest furnaces on the market today.
- Pre-paint galvanized steel cabinet.
- Molded permanent filters.
- Optional indoor or outdoor combustion air.
- Transformer and control fuse protection.
- Control board diagnostics.
- Condensate drain trap for horizontal/downflow application provided standard.

A variety of cooling coils and plenums designed to use with the Ruud *Achiever Series*[®] 90 Plus gas furnaces are available as optional accessories for air conditioning models.

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

UGTK- SERIES
Models with Input Rates
from 60,000 to 120,000 BTU/HR
[17.58 to 35.17 kW]
(All Models 92% A.F.U.E.† or Above)





ACHIEVER SERIES 90 PLUS HIGH EFFICIENCY DOWNFLOW/HORIZONTAL GAS FURNACE



PRIMARY AND SECONDARY HEAT EXCHANGER



DRAFT INDUCER



INTEGRATED FURNACE CONTROL



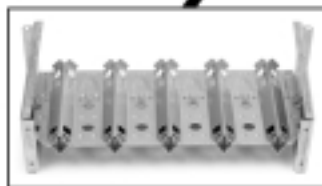
GAS VALVE AND MANIFOLD



PRESSURE SWITCHES



REMOTE SENSOR



IN-SHOT BURNERS



DIRECT SPARK IGNITION & REMOTE SENSOR

STANDARD EQUIPMENT

Completely assembled and wired; heat exchanger; primary: 409 and aluminized 409 stainless steel, secondary: 29-4C stainless steel; induced draft; pressure switches; redundant main gas control manual shut-off; blower compartment door safety switch; solid state time on/off blower control; limit controls; 100% safety lock out; cool fan off delay; field selectable heat fan off delay; one hour automatic retry; power and self-test diagnostics; flame sense current diagnostics; electronic air cleaner connections; twinning (built-in) features; humidifier connections; humidifier on/off delay; low speed continuous fan option; single speed option for heating and cooling applications; pressure regulator for natural and L.P. (propane) gasses; transformer; direct drive, multi-speed blower motor. (Please note: a thermostat is not included as standard equipment.)

OPTIONAL EQUIPMENT

NOTE: Furnace is not listed for use with fuels other than natural or L.P. (propane) gas.

All models can be converted by a local service dealer to use L.P. (propane) gas without changing burners. Factory approved kits must be used to convert from natural to L.P. (propane) gas and may be ordered as optional accessories from a parts distributor.

For L.P. (propane) operation, refer to Conversion Kit Index Form.

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

PHYSICAL DATA AND SPECIFICATIONS— DOWNFLOW/HORIZONTAL MODELS

U.S. and Canadian Models

MODEL NUMBERS	UGTK-06*MAES	UGTK-07*MAES	UGTK-07*YBGS	UGTK-09*ZAJ5	UGTK-10*ZAJ5	UGTK-12*RAJ5
HIGH FIRE INPUT BTU/HR [kW] ①	60,000 [17.58]	75,000 [21.98]	75,000 [21.98]	90,000 [26.38]	105,000 [30.77]	120,000 [35.17]
LOW FIRE INPUT BTU/HR [kW]	42,000 [12.31]	52,500 [15.39]	52,500 [15.39]	63,000 [18.46]	73,500 [21.54]	84,000 [24.62]
HIGH FIRE HEATING CAPACITY BTU/HR [kW]	56,000 [16.41]	70,000 [20.51]	70,000 [20.51]	84,000 [24.62]	97,000 [28.43]	113,000 [33.12]
HIGH FIRE HIGH ALTITUDE INPUT 8000'	40,800 [11.96]	51,000 [14.95]	51,000 [14.95]	61,200 [17.94]	71,400 [20.93]	81,600 [23.91]
HIGH FIRE HIGH ALTITUDE OUTPUT AT 8000' (HIGH FIRE) [kW]	37,944 [11.12]	47,430 [13.90]	47,430 [13.90]	56,916 [16.69]	66,402 [19.46]	75,888 [22.24]
BLOWER (D x W) [mm]	11 x 7 [279 x 178]	11 x 7 [279 x 178]	12 x 7 [305 x 178]	12 x 11 [305 x 279]	12 x 11 [305 x 279]	11 x 10 [279 x 254]
MOTOR H.P. [W]—SPEEDS—TYPE	1/2 [373]-4-PSC	1/2 [373]-4-PSC	3/4 [559]-4-PSC	3/4 [559]-4-PSC	3/4 [559]-4-PSC	3/4 [559]-4-PSC
MOTOR FULL LOAD AMPS	6.8	6.8	9.5	9.5	9.5	9.5
HEATING SPEED—HIGH FIRE	MED-LO	MED-HI	MED-LO	MED-LO	MED-LO	MED-HI
HEATING SPEED—LOW FIRE	LOW	LOW	LOW	LOW	LOW	LOW
COOLING SPEED	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
MINIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.12 [.029]	.12 [.029]	.12 [.029]	.15 [.037]	.20 [.049]	.20 [.049]
MAXIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]	.50 [.124]
HEATING CFM @ .2" [.049 kPa] W.C. E.S.P. [L/s]	885 [418]	1060 [500]	1375 [649]	1400 [661]	1425 [673]	1565 [739]
COOLING CFM @ .5" [.124 kPa] W.C. E.S.P. [L/s]	1180 [557]	1150 [543]	1625 [767]	1850 [873]	1820 [859]	2040 [963]
TEMPERATURE RISE—HIGH FIRE RANGE °F [°C]	40-70 [22.2-38.9]	45-75 [25-41.7]	35-65 [19.4-36.1]	45-75 [25-41.7]	50-80 [27.8-44.4]	50-80 [27.8-44.4]
TEMPERATURE RISE—LOW FIRE RANGE °F [°C]	30-60 [16.7-33.3]	45-75 [25-41.7]	25-55 [13.9-30.6]	35-65 [19.4-36.1]	35-65 [19.4-36.1]	45-75 [25-41.7]
RETURN AIR CABINETS (OPT.) RXGR-FILTER SIZE [mm]	C17B (2) 12" x 20" [305 x 508]	C17B (2) 12" x 20" [305 x 508]	C21B (2) 12" x 20" [305 x 508]	C21B (2) 20" x 20" [508 x 508]	C21B (2) 20" x 20" [508 x 508]	C24B (2) 24" x 20" [609 x 508]
STANDARD, HIGH VELOCITY PERMANENT FILTER (IN.)	15 ³ / ₄ x 25 x 1	15 ³ / ₄ x 25 x 1	15 ³ / ₄ x 25 x 1	19 ¹ / ₄ x 25 x 1	19 ¹ / ₄ x 25 x 1	22 ³ / ₄ x 25 x 1
APPROX. SHIPPING WEIGHT (LBS.) [kg]	117 [53.1]	123 [55.8]	123 [55.8]	148 [67.1]	152 [68.9]	160 [72.6]
AFUE ②	93.8	92.5	93.0	93.2	92.2	92.4

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

① See Index Form for LP Conversion Kits.

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

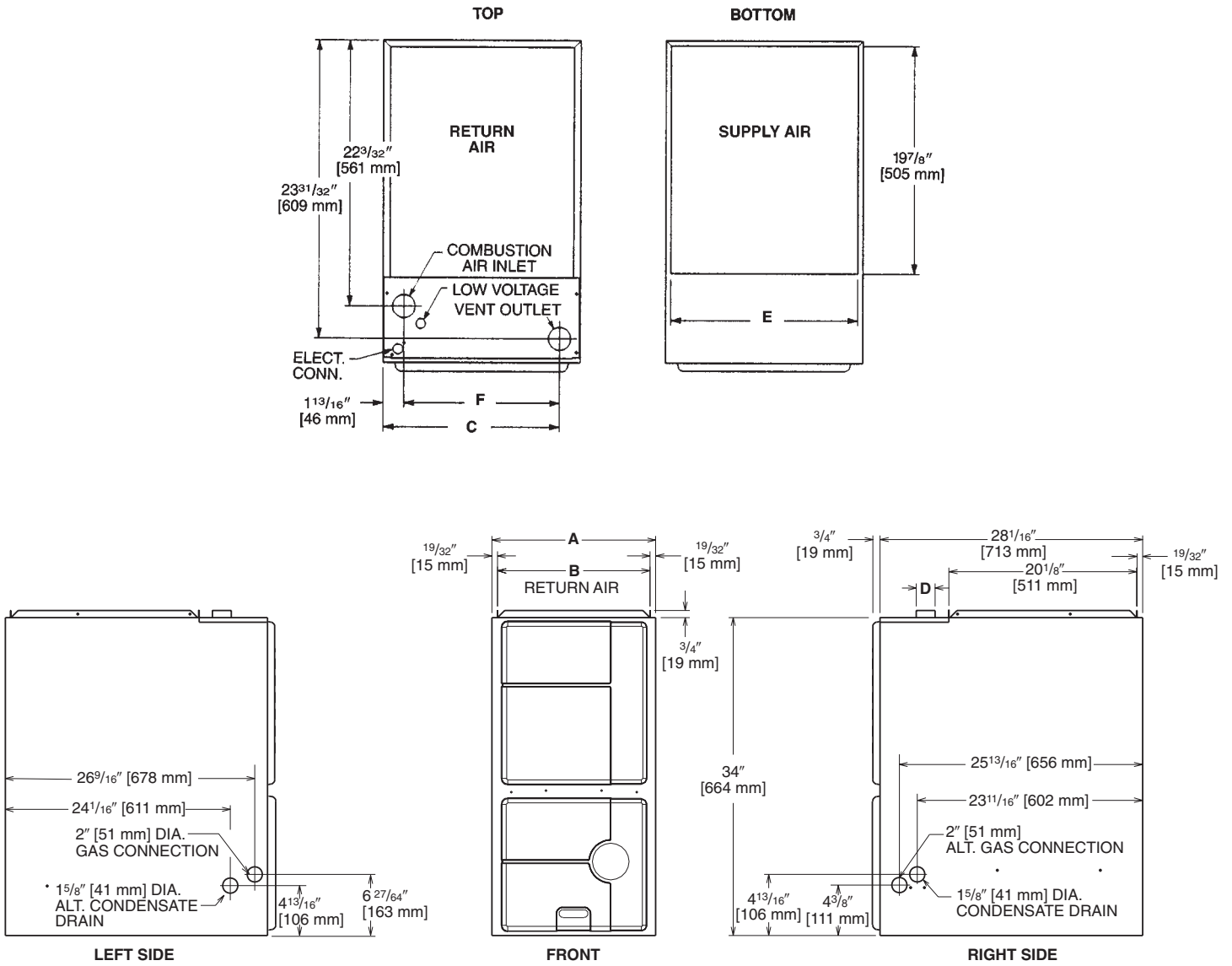
*E = Standard

*N = NO_x Models

MODEL IDENTIFICATION

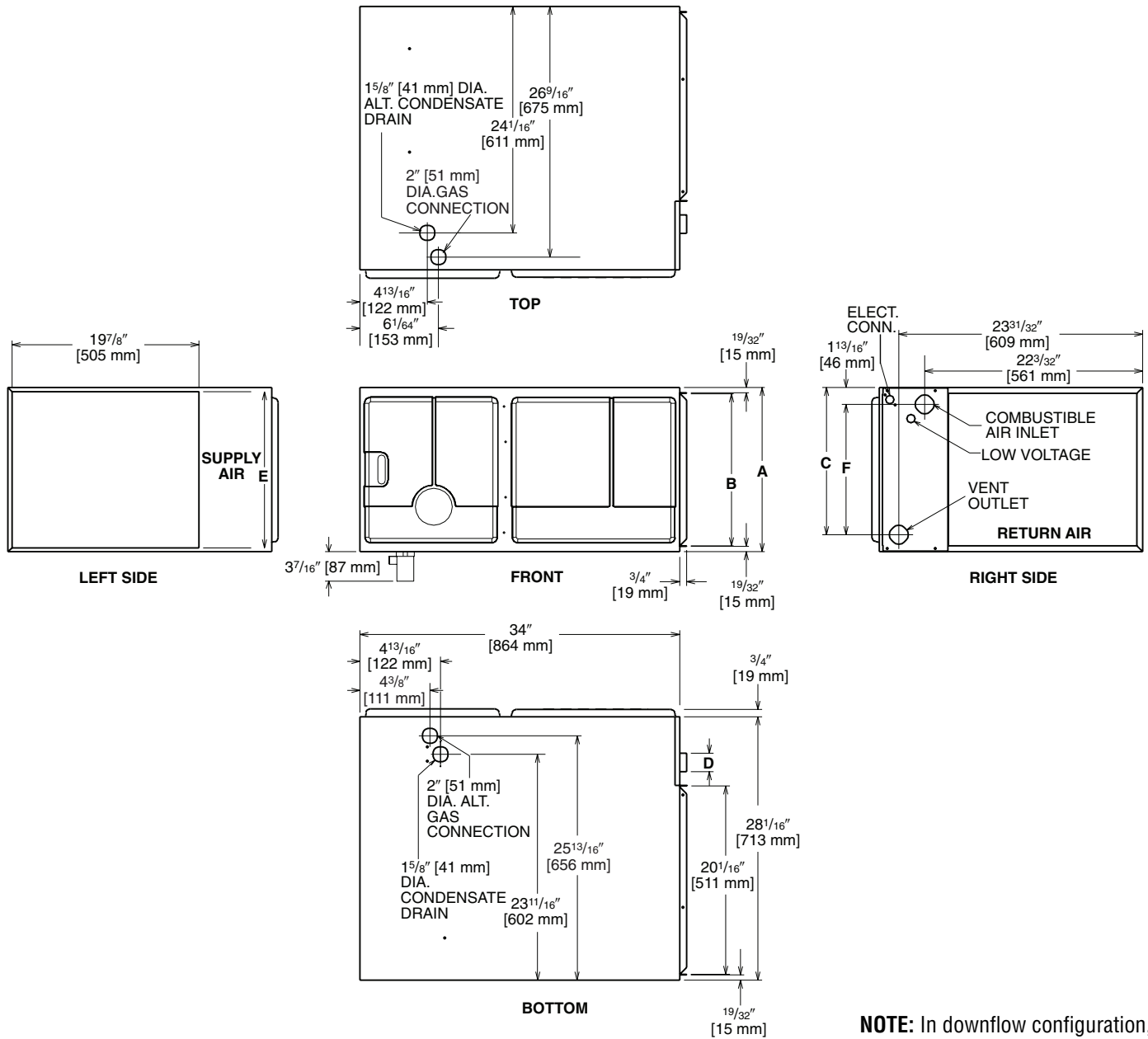
<u>U</u>	<u>G</u>	<u>T</u>	<u>K</u>	—	<u>07E*</u>	<u>M</u>	<u>A</u>	<u>E</u>	<u>S</u>
Ruud	Gas Furnace	Downflow/ Horizontal Condensing Gas Furnace	Design Series		Heating Input Designation	Blower Size	Variations	Heat/Cool Designation	Fuel Code
					Electric Ignition	M = 11 x 7 [279 x 178 mm]	A = Std. B = Wide Cabinet	E = 1100-1300 CFM [519-613.5 L/s] G = 1500-1700 CFM [707.9-802.3 L/s] J = 1900-2100 CFM [896.7-991.1 L/s]	S = U.S. and Canadian Natural Gas
					Input BTU/HR	R = 11 x 10 [279 x 254 mm]			
					06* 60,000 [17.6 kW]	Z = 12 x 11 [305 x 279 mm]			
					07* 75,000 [22 kW]	Y = 12 x 7 [305 x 178 mm]			
					09* 90,000 [26.4 kW]				
					10* 105,000 [30.7 kW]				
					12* 120,000 [35.2 kW]				
					NOTES: *E = Standard				
					*N = NO _x Models				

DOWNFLOW MODELS



NOTE: In downflow configuration, return air cut-out is not permitted.

HORIZONTAL MODELS



NOTE: In downflow configuration, return air cut-out is not permitted.

MODEL UGTK-	A	B	C	D	E	F	LEFT SIDE	MINIMUM CLEARANCE (IN.) [mm]					SHIP WGTS. [kg]
								RIGHT SIDE	BACK	TOP	FRONT	VENT	
06	17 1/2 [445]	16 11/32 [415]	15 5/8 [397]	2 [51]	16 5/8 [422]	13 7/8 [352]	0	0	0	1 [25]	2 [51]	0	117 [53]
07EM	17 1/2 [445]	16 11/32 [415]	15 5/8 [397]	2 [51]	16 5/8 [422]	13 7/8 [352]	0	0	0	1 [25]	2 [51]	0	123 [56]
07EY	21 [533]	19 27/32 [504]	19 3/16 [486]	2 [51]	20 1/8 [511]	17 3/8 [441]	0	0	0	1 [25]	2 [51]	0	123 [56]
09	21 [533]	19 27/32 [504]	19 3/16 [486]	2 [51]	20 1/8 [511]	17 3/8 [441]	0	0	0	1 [25]	2 [51]	0	148 [67]
10	21 [533]	19 27/32 [504]	19 3/16 [486]	2 [51]	20 1/8 [511]	17 3/8 [441]	0	0	0	1 [25]	2 [51]	0	152 [69]
12	24 1/2 [622]	23 11/32 [593]	22 5/8 [575]	2 [51]	23 5/8 [600]	20 7/8 [530]	0	0	0	1 [25]	2 [51]	0	160 [73]

IMPORTANT NOTE: Horizontal furnace may be installed for horizontal left hand air supply **ONLY**. The condensate trap provided for horizontal application must be installed in the field beneath the unit as directed in the furnace Installation & Operating Instructions.

BLOWER PERFORMANCE DATA **—UGTK MODELS

MODEL UGTK-	BLOWER SIZE IN. [mm]	MOTOR H.P. [W]	BLOWER SPEED	CFM [L/s] AIR DELIVERY EXTERNAL STATIC PRESSURE INCHES WATER COLUMN [kPa]						
				0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
06	11 x 7 [279 x 178]	1/2 [373]	LOW	795 [375]	760 [359]	730 [344]	695 [328]	660 [311]	615 [290]	570 [269]
			MED-LO	910 [429]	885 [418]	860 [406]	815 [384]	770 [363]	725 [342]	680 [321]
			MED-HI	1115 [526]	1080 [510]	1045 [493]	1005 [474]	965 [455]	920 [434]	875 [413]
			HIGH	1365 [644]	1315 [620]	1270 [600]	1225 [578]	1180 [557]	1125 [531]	1070 [505]
07EM	11 x 7 [279 x 178]	1/2 [373]	LOW	780 [368]	750 [354]	720 [339]	675 [318]	635 [300]	595 [281]	555 [262]
			MED-LO	890 [420]	860 [406]	835 [394]	790 [373]	750 [354]	705 [332]	660 [311]
			MED-HI	1100 [519]	1060 [500]	1025 [484]	980 [462]	940 [443]	890 [420]	845 [399]
			HIGH	1340 [632]	1295 [611]	1250 [590]	1200 [566]	1150 [543]	1090 [514]	1025 [484]
07EY	12 x 7 [305 x 178]	3/4 [559]	LOW	1185 [559]	1160 [547]	1140 [538]	1115 [626]	1095 [517]	1065 [503]	1040 [491]
			MED-LO	1405 [663]	1375 [649]	1350 [637]	1310 [618]	1270 [599]	1235 [583]	1195 [564]
			MED-HI	1595 [753]	1560 [738]	1525 [720]	1480 [698]	1440 [679]	1380 [651]	1325 [625]
			HIGH	1835 [666]	1780 [840]	1730 [816]	1675 [791]	1625 [767]	1555 [734]	1480 [698]
09	12 x 11 [305 x 279]	3/4 [559]	LOW	1155 [545]	1125 [531]	1100 [519]	1080 [510]	1060 [500]	1000 [472]	940 [443]
			MED-LO	1420 [670]	1400 [661]	1380 [651]	1365 [644]	1350 [637]	1260 [594]	1175 [554]
			MED-HI	1605 [757]	1575 [743]	1550 [732]	1560 [736]	1570 [740]	1480 [698]	1390 [656]
			HIGH	2005 [946]	1965 [927]	1930 [910]	1890 [892]	1850 [873]	1765 [833]	1680 [793]
10	12 x 11 [305 x 279]	3/4 [559]	LOW	1180 [557]	1150 [543]	1120 [528]	1100 [519]	1080 [510]	1025 [484]	970 [458]
			MED-LO	1460 [689]	1425 [672]	1390 [656]	1375 [649]	1360 [642]	1280 [604]	1200 [566]
			MED-HI	1680 [793]	1645 [776]	1615 [762]	1585 [748]	1560 [736]	1490 [703]	1420 [670]
			HIGH	2055 [970]	2000 [944]	1940 [915]	1880 [887]	1820 [859]	1745 [823]	1675 [790]
12	11 x 10 [279 x 254]	3/4 [559]	LOW	1285 [606]	1250 [590]	1215 [573]	1235 [582]	1260 [595]	1230 [580]	1200 [566]
			MED-LO	1590 [750]	1565 [738]	1540 [727]	1505 [710]	1475 [696]	1425 [672]	1375 [649]
			MED-HI	1840 [868]	1820 [860]	1800 [850]	1750 [826]	1700 [802]	1645 [776]	1590 [750]
			HIGH	2315 [1093]	2250 [1062]	2185 [1031]	2110 [996]	2040 [963]	1965 [927]	1890 [892]

**Blower performance measured with filter in place.

NOTE: Recommended blower speeds are in bold.

[] 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 Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.

Primary and Secondary Heat Exchanger.....Limited Lifetime

*Any Other Part.....Five (5) Years

*This five year limited warranty is applicable only to single-phase products installed in residential applications.

ACCESSORIES—DOWNFLOW/HORIZONTAL

VENT TERMINATION KITS

CONCENTRIC: Horizontal/Vertical = RXGY-E03

HORIZONTAL TWO PIPE: RXGY-D02, RXGY-D03, RXGY-D04, RXGY-G02

CONDENSATE PUMP KIT: RXGY-B01

NEUTRALIZER KIT: RXGY-A01

FOSSIL FUEL KIT: RXPF-F01

RXPF-F02 (TVA)

NON-COMBUSTIBLE FLOOR BASE: RXGC-B17

RXGC-B21

RXGC-B24

FOR HIGH ALTITUDES

HIGH ALTITUDE KIT*:

INPUT BTU/HR [kW]	HIGH ALTITUDE KIT NO.
60,000 [18]	RXGY-F29
75,000 N [22]	RXGY-F30
75,000 W [22]	RXGY-F30
90,000 [26]	RXGY-F31
105,000 [31]	RXGY-F32
120,000 [35]	RXGY-F33

*For installations over 5000 ft.

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

For all installations above 2000 ft. the burner orifice size needs to be recalculated and verified. See Installation Instructions for more information.

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.

(U.S. Models—Kit packaged with furnace.
Requires field installation).

LP CONVERSION KITS:

U.S./Canadian: RXGJ-FP21 or RXGJ-FP19

EXTERNAL FILTER RACK: RXGF-CC

FILTER RACK FILTER SIZES* INCHES [mm]	
MODEL UGTK-	RXGF-CC
06	(2) 12 x 20 [305 x 508]
07	(2) 12 x 20 [305 x 508]
09	(2) 12 x 20 [305 x 508]
10	(2) 12 x 20 [305 x 508]
12	(2) 14 x 20 [305 x 508]

*Filter racks are shipped without filters.

Filters shipped with furnace may be used or a suitable 1" [25.4 mm] filter.

PLENUM DATA FOR COILS

Refer to Coil Specification Sheets for Plenum Data.

FOR LEFT SIDE (ALTERNATE) CONDENSATE DRAIN KIT:

RXGY-H01 (All Models)

[] Designates Metric Conversions

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.

**RUUD
AIR CONDITIONING
DIVISION**

5600 Old Greenwood Road, Fort Smith, Arkansas 72908



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