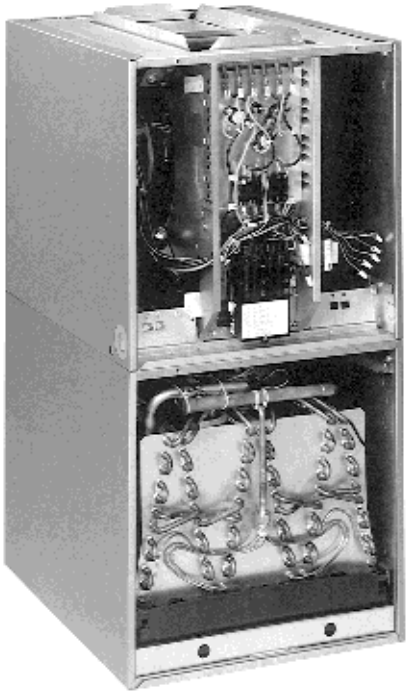
FORM NO. H22-509 REV. 8
Supersedes Form No. H22-509 Rev. 7

AIR HANDLERS



RUUD®

UBHA- SERIES HEAT PUMP AIR HANDLERS AND FAN COIL UNIT

Features

- 1½ ton [5 kW] through 5 ton [18 kW] models are always just 35 inches [889 mm] tall and 22 inches [559 mm] deep.
- Available from factory in upflow and horizontal configurations.
- Versatile 3-way convertible design for upflow, downflow and horizontal.
- All models meet or exceed 400 CFM [189 L/s] per ton at .5 inches [12 kPa] of external static pressure.
- Optional factory or field installed MultiFlex® coils.
- Sturdy double wall construction with .5 inches [12 kPa] of dead air space providing thermal and sound insulation.
- Permanent, easily accessible and washable filter furnished standard.
- Circuit breaker (standard on units with more than 11 kW) meets U.L. requirements for service disconnect.
- Factory installed auxiliary electric heat. Optional 4-21 kW provides exacting heat for indoor comfort.
- Watt restrictors, standard on UBHA-14 models above 6 kW and on UBHA-17, 21, and 24 models above 11 kW, stage supplemental heat so that only the necessary amount is engaged to maintain comfort in the conditioned space.

Accredited by the Dutch Council for Certification
AQS Quality Evaluations, Inc. Quality Assurance Certification
REGISTRAR ACCREDITATION BOARD
ISO 9002
Certificate Number: 30164

"CERTIFIED UNDER THE A.R.I. CERTIFICATION PROGRAM—A.R.I. STANDARDS 210/240-84"

c UL us LISTED

Engineering Features

UBHA- Series

- The most compact unit design available, all air handler models only 35 inches [89 mm] high.
- Attractive pre-painted cabinet exterior.
- Rugged double wall steel cabinet construction, designed for added strength and versatility.
- Quiet-efficient 8-pole 825 RPM blower motors provide nominal airflow to .5 inches [13 mm] or more external duct static.
- Four leg flexible blower motor mount.
- Circuit breakers standard on 1-phase models above 11 kW and optional on models with 11 kW or less.
- Models supplied with circuit breakers meet UL and cUL requirements as a service disconnect switch.
- Provisions for field electrical, refrigerant and drain connections from either side of air handler cabinet.
- All single phase models above 11 kW are available with multiple electrical supply circuits or single electrical supply circuit. Kits and parts available for field conversion either way.
- Tab lock blower housing with integrated electric heaters, controls, motor and blower. Slide out design for service and maintenance convenience.
- Exclusive dependable incoloy sheath type electric heating elements located in the blower housing provide mixed warm air without cold spots.
- Field convertible for vertical upflow, vertical downflow, horizontal right hand or left hand air supply.
- Common combustible floor base accessory fits all model sizes when required for downflow installations on combustible floors.
- Durable framed cleanable air filter provided as standard in unit filter rack.
- MultiFlex® indoor coil design provides low air side pressure drop, high performance and extremely compact size. Optional front or side refrigerant connections. All coils come with PVC condensate elbow standard.
- Flow check piston or expansion valve on indoor coil provides for operation with air conditioning or heat pump using the same coil. (Some models require piston size change.)
- All indoor coils have copper tubing and aluminum fins.
- Molded polymer corrosion resistant condensate drain pan is provided on all indoor coils.
- Both supply and return duct flanges provided as standard on air handler cabinet.
- Connection points for both high voltage and low voltage control wiring inside air handler cabinet.
- Concentric knockouts are provided for power connection to cabinet. Installer may pull desired hole size up to 2 inches [51 mm] for 1 1/2 inch [38 mm] conduit.
- Patented watt restrictor on heat pump models to control electric heat during heating operation.

Watt-restrictor

Supplemental heat, provided by electric heating elements may be necessary in some areas when heating requirements for indoor comfort exceed the capacity of the heat pump system.

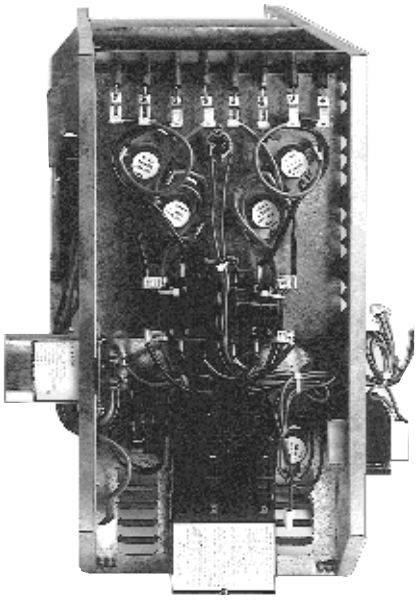
When supplemental heat is required, units with the Watt Restrictor will restrict the amount of supplemental electric heat that can be energized dependent on the heat output of the heat pump (temperature of the air leaving the indoor heat pump coil).

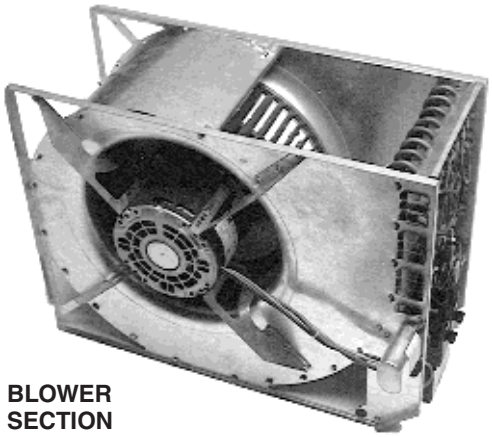
The Watt-restrictor utilizes sensing devices in the unit to sense the air temperature leaving the indoor coil and disengage unnecessary heating elements when that temperature is at least 90°F [32°C]. (In this mode your system is controlled by the first stage of the wall thermostat.) This occurs only when the second stage of the wall thermostat calls for heat.

Since the heat output of the heat pump is dependent upon the outdoor air temperature, this control performs the same function as a field installed outdoor thermostat.

An additional benefit of the Watt Restrictor is that it can sense a degradation in heat pump performance due to causes other than outdoor temperature and react accordingly to bring on more supplemental electric heat.

[ ] Designates Metric Conversions





BLOWER SECTION

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 periods stated, in accordance with the terms of the limited warranty.

MultiFlex Coil leaks caused by factory defects	Five (5) Years
Electric Heating Element	Five (5) Years
Any Other Part	One (1) Year

***For Complete Details of the Limited Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.**

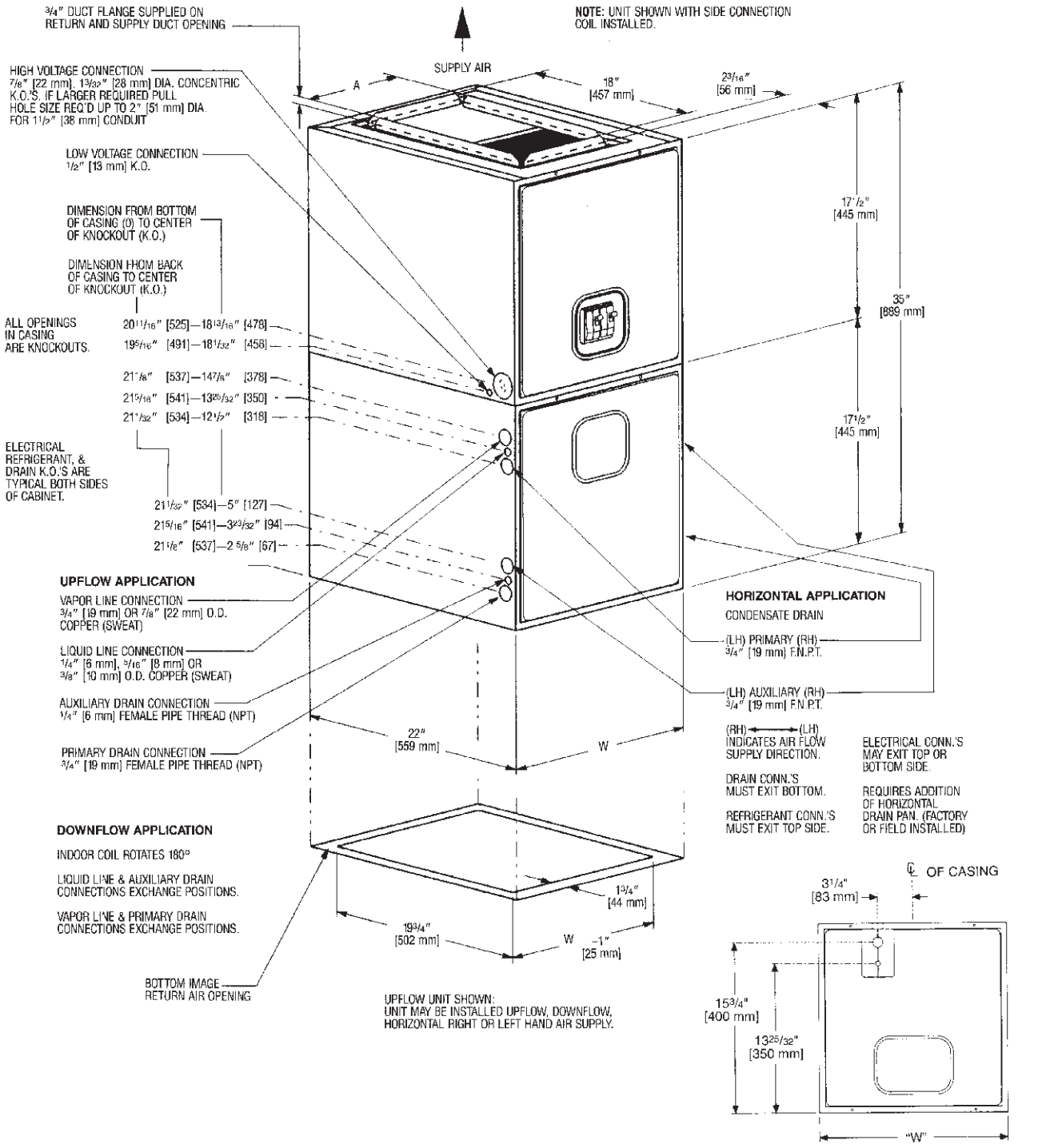
Model Identification

U	B	H	A	17	J	11	S	U	B	A	—	Additional Inform.
Ruud	Blower Unit	Type Unit	Design Series	Cab. Width [mm]	Electrical Designations	Electrical Heat (kW) Designation See Electrical Heat Data for Actual kW at 208 Volts.	Control Designation	Airflow Direction	Coil Code	Filter	Variation from Standard	
		H = Air Handler										Motor H.P. [W] Blower CFM [L/s] Lo/Hi Speed Blower Wheel Dia./Width [mm] Filter Size Width/Length [mm] Outdoor Unit Size
				14 17 21 24	A = 115V, 1PH, 60HZ J = 208/240V, 1PH, 60HZ C = 208/240V, 3PH, 60HZ D = 480V, 3PH, 60HZ (Some D Models Are 1PH)	00 = No Heat 04 = 3.5 kW 06 = 4.9 kW 07 = 7.0 kW C08 = 7.4 kW D08 = 6.7 kW 09 = 9.8 kW 11 = 10.0 kW 14 = 14.0 kW D16 = 14.7 kW 18 = 17.5 kW 21 = 21.0 kW	N = No Circuit Breakers SIngle Supply Circuit S = Circuit Breaker(s) Single Supply Circuit M = Circuit Breaker(s) Multi-Supply Circuit		A = W/O Coil, With Casing	A = With Filter		
				14 14.0" [356]	A	00	N	U = Upflow Side Connection F = Front Upflow Connection Options H = Horizontal Left Front Connection Option	D = RCBA-2457 E = RCGA-24A1 F = RCGA-24A2 G = RCHA-24A1 H = RCHA-24A2		I = Meets Florida Insulation Requirements	1/8 H.P. [93] LO-600 CFM [142] HI-800 CFM [378] 11.9 x 3.81 [302 x 97] 12.75 x 21 [324 x 533] -018 -024
					J	00, 04, 06, **07, 11**	N					
						04, 06, **07, 11**	S					
				17 17.5" [445]	A	00	N		D = RCBA-3765 E = RCGA-37A1 F = RCGA-36A2 G = RCHA-36A1 H = RCHA-36A2			1/4 H.P. [186] LO-1000 CFM [472] HI-1200 CFM [566] 11.9 x 5.29 [302 x 134] 16.25 x 21 [413 x 533] -030 -036
					J	00, 04, 06, 07, 11	N					
						04, 06, 07, 11, **14**	S					
						14	M					
					C	08, 11, **14***	N, S					
				21 21.0" [533]	A	00	N		C = RCBA-4882 E = RCGA-48A1 G = RCHA-48A1			1/3 H.P. [249] LO-1400 CFM [661] HI-1600 CFM [755] 11.9 x 7.12 [302 x 181] 19.75 x 21 [502 x 533] -042 -048
					J	00, 06, 07, 11	N					
						06, 07, 11, **14, 18**	S					
						14, 18	M					
					C	08, 11, **14***	N, S					
						18*	M					
					D	00-1PH, 08, 09-3PH	N					
				24 24.5" [622]	A	00	N		B = RCBA-6089 E = RCGA-60A1 G = RCHA-60A1			1/2 H.P. [373] HI-2000 CFM [944] 11.9 x 9.50 [302 x 241] 23.25 x 21 [591 x 533] -060
					J	00, 11	N					
						11, **14, 18, 21**	S					
						14, 18, 21	M					
					C	11, **14***	N, S					
						21	M					
					D	00-1PH	N					
						09, **16, 21**						

NOTES: • Coil piston size indicated by last two digits of RCBA- coil model number.
• Electric heater BTUH = (heater watts + motor watts) x 3.412 (See airflow table for motor watts).
• Models with **BOLD** numerals in the electrical heat (kw) column, have watt restrictor and defrost heat controls.
• Electric heat models with one asterisk "*" represent 3 phase models with unbalanced loads.

[ ] Designates Metric Conversions

Unit Dimensions



Dimensions for Front Connection Coils. For "W", see Unit Dimensions.

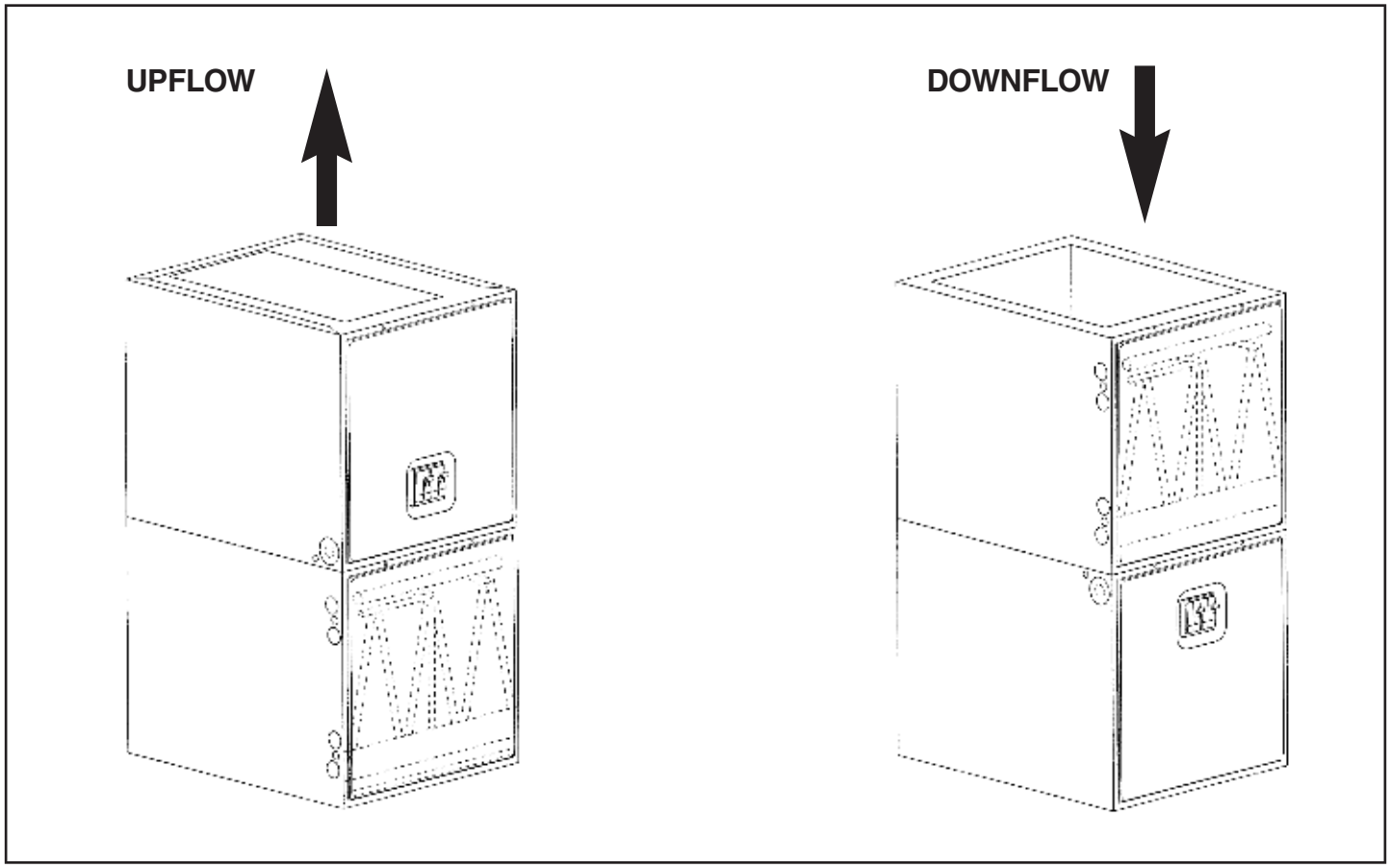
Unit Dimensions & Weights

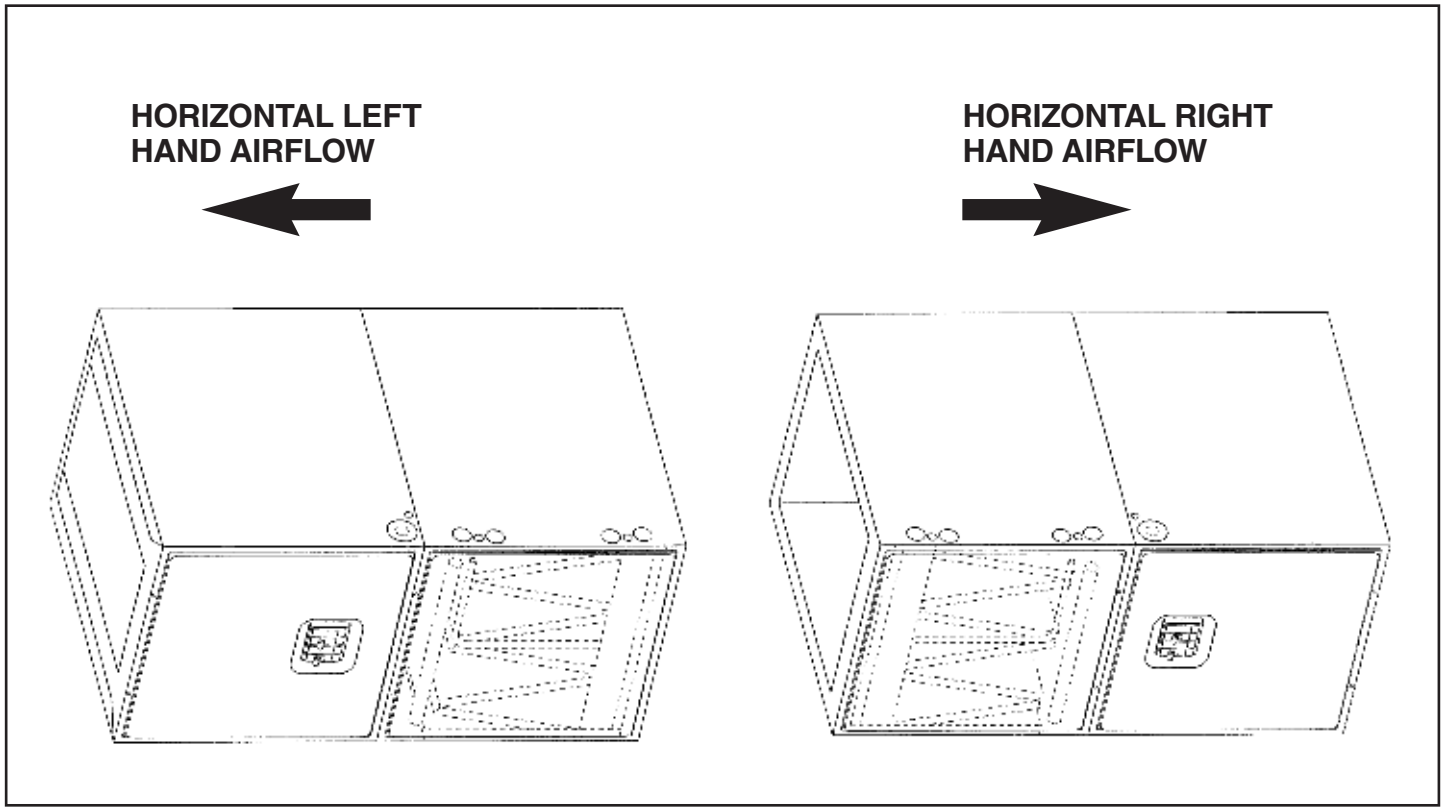
Model Number UBHA-	Unit Width "W" In. [mm]	Supply Duct "A" In. [mm]	Air Flow CFM (Nom.) [L/s]		Unit Weight/Shipping Weight (Lbs.) [kg]*			Max. Heater Elements	
			Lo	Hi	Unit With Coil (Max. kW)	Unit Without Coil	Unit Without Coil Casing	No.	kW
14	14 [356]	6 3/32 [155]	600 [283]	800 [378]	81/88 [37/40]	66/73 [30/33]	49/54 [22/24]	3	11
17	17 1/2 [445]	7 9/16 [192]	1000 [472]	1200 [566]	92/99 [42/45]	72/79 [33/36]	53/59 [24/27]	4	14
21	21 [533]	9 7/16 [240]	1400 [661]	1600 [755]	109/117 [49/53]	83/91 [38/41]	63/69 [29/31]	5	18
24	24 1/2 [622]	11 3/4 [298]	—	2000 [944]	125/134 [57/61]	93/102 [42/46]	71/78 [32/35]	6	21

NOTE: Subtract 1.5 lbs. [.68 kg] for each heater element less than maximum.

[ ] Designates Metric Conversions

Airflow Directions





NOTE: Coil and blower section are always in a draw through configuration.

Airflow Performance

Airflow performance data is based on cooling performance with wet coil and filter in place. Select performance table for appropriate unit size, voltage and number of electric heaters to be used. Make sure external static applied to unit allows operation within the minimum and maximum limits shown in table below for both cooling and electric heat operation. For optimum blower performance, operate the unit in the .2 [5 mm] to .5 inches [13 mm] W.C. external static range. Units with coils should be applied with a minimum of .1 inch [3 mm] W.C. external static range. Units without coils should be applied with a minimum of .2 inches [5 mm] W.C. external static pressure. In general, the indoor motor speed tap should be as shown in table for the appropriate cooling capacity shown; however, at extremes of external static, voltage and number of heaters the higher or lower speed tap may be necessary or more desirable. Always check to make sure proper motor speed tap is connected as units are shipped from the factory connected for high speed operation.

Airflow Operating Limits

Model Cabinet Size	14		17		21		24
Cooling BTUH x 1,000 Cooling Tons Nominal	-018 1.5	-024 2	-030 2.5	-036 3	-042 3.5	-048 4	-060 5
Heat Pump or Air Conditioning Maximum Heat/Cool CFM [L/s] (37.5 CFM [18 L/s]/1,000 BTUH) (450 CFM [212 L/s]/Ton Nominal)	675 [319]	900 [425]	1125 [531]	1350 [637]	1575 [743]	1800 [850]	2250 [1062]
Heat Pump or Air Conditioning Nominal Heat/Cool CFM [L/s] (33.3 CFM [16 L/s]/1,000 BTUH) (400 CFM [189 L/s]/Ton Nominal)	600 [283]	800 [378]	1000 [472]	1200 [566]	1400 [661]	1600 [755]	2000 [944]
Heat Pump or Air Conditioning Minimum Heat/Cool CFM [L/s] (30.0 CFM [14 L/s]/1,255 BTUH) (360 CFM [170 L/s]/Ton Nominal)	540 [255]	720 [340]	900 [425]	1080 [510]	1260 [595]	1440 [680]	1800 [850]
Blower Motor Speed	Low	High	Low	High	Low	High	High
Maximum kW Electric Heating & Minimum Electric Heat CFM [L/s]	15 560 [264]	15 560 [264]	20 900 [425]	20 900 [425]	25 1220 [576]	25 1220 [576]	30 1460 [689]
Maximum Electric Heat Rise °F [°C]	85 [29]	85 [29]	70 [21]	70 [21]	65 [18]	65 [18]	65 [18]

Airflow Performance Data

Model Cabinet Size	Electric Heaters	Blower Motor		CFM [L/s] (Watts)/External Static Pressure—Inches W.C. [kPa]								
		Speed	Volts*	.00	.10 [.02]	.20 [.05]	.30 [.07]	.40 [.10]	.50 [.12]	.60 [.15]	.70 [.17]	.80 [.20]
-14	None	Low	230	**633 [299] ◭ (214)**	641 [303] (215)	658 [311] (214)	674 [318] (209)	680 [321] (202)	667 [315] (193)	**627 [296] ◭ (180)**	**551 [260] ◭ (164)**	—
	3 (Max.)	Low	230	**633 [299] ◭ (220)**	640 [302] (219)	661 [312] (215)	679 [320] (208)	679 [320] (198)	644 [304] (184)	**560 [264] ◭ (166)**	**410 [193] ◭ (144)**	—
	None	Low	208	**539 [254] ◭ (179)**	534 [252] (178)	541 [255] (177)	553 [261] (175)	563 [266] (171)	561 [265] (165)	**541 [255] ◭ (155)**	**494 [233] ◭ (140)**	—
	3 (Max.)	Low	208	**535 [252] ◭ (180)**	535 [252] (180)	549 [259] (178)	564 [266] (175)	569 [269] (170)	554 [261] (161)	**505 [238] ◭ (147)**	—	—
	None	High	230	**966 [456] ◭ (294)**	966 [456] (290)	950 [448] (281)	920 [434] (269)	874 [412] (254)	813 [384] (238)	**737 [348] ◭ (222)**	**645 [304] ◭ (208)**	—
	3 (Max.)	High	230	**967 [456] ◭ (292)**	954 [450] (287)	931 [439] (277)	894 [422] (263)	837 [395] (246)	758 [358] (228)	**650 [307] ◭ (209)**	**510 [241] ◭ (192)**	—
	None	High	208	**779 [368] ◭ (260)**	804 [379] (258)	818 [386] (251)	818 [386] (241)	801 [378] (228)	764 [361] (213)	**703 [332] ◭ (198)**	**616 [291] ◭ (183)**	—
	3 (Max.)	High	208	**781 [369] ◭ (260)**	802 [379] (255)	813 [384] (246)	807 [381] (234)	776 [366] (219)	714 [337] (202)	**612 [289] ◭ (183)**	**464 [219] ◭ (163)**	—

*For 115 and 460 volt units use 230 volt data shown above.

◭ WARNING: Observe airflow operating limits if operating in area of airflow table shown in bold.

[ ] Designates Metric Conversions

Airflow Performance Data, continued

Model Cabinet Size	Electric Heaters	Blower Motor		CFM [L/s] (Watts)/External Static Pressure—Inches W.C. [kPa]								
		Speed	Volts*	.00	.10 [.02]	.20 [.05]	.30 [.07]	.40 [.10]	.50 [.12]	.60 [.15]	.70 [.17]	.80 [.20]
-17	None	Low	230	**1042 [492] ◭ (353)**	1072 [506] (325)	1097 [518] (312)	1109 [523] (319)	1103 [521] (312)	1071 [505] (314)	**1005 [474] ◭ (310)**	**899 [424] ◭ (294)**	**745 [352] ◭ (261)**
	4 (Max.)	Low	230	**1041 [491] ◭ (338)**	1076 [508] (333)	1096 [517] (324)	1096 [517] (311)	1070 [505] (295)	1012 [478] (275)	**918 [433] ◭ (252)**	**780 [368] ◭ (226)**	—
	None	Low	208	**872 [412] ◭ (276)**	885 [418] (276)	912 [430] (274)	939 [443] (270)	956 [451] (263)	949 [448] (251)	**906 [428] ◭ (235)**	**815 [385] ◭ (213)**	**663 [313] ◭ (185)**
	4 (Max.)	Low	208	**877 [414] ◭ (277)**	890 [420] (276)	915 [432] (272)	937 [442] (265)	942 [445] (255)	918 [433] (241)	**849 [401] ◭ (222)**	**723 [341] ◭ (198)**	—
	None	High	230	**1428 [674] ◭ (436)**	1408 [665] (418)	1377 [650] (399)	1333 [629] (380)	1273 [601] (360)	1202 [567] (341)	**1096 [517] ◭ (316)**	**973 [459] ◭ (293)**	**824 [389] ◭ (267)**
	4 (Max.)	High	230	**1414 [667] ◭ (428)**	1382 [652] (409)	1339 [632] (389)	1281 [605] (368)	1207 [570] (346)	1113 [525] (323)	**998 [471] ◭ (300)**	**858 [405] ◭ (274)**	—
	None	High	208	**1188 [561] ◭ (382)**	1215 [573] (372)	1226 [579] (359)	1218 [575] (343)	1188 [561] (325)	1131 [534] (304)	**1045 [493] ◭ (282)**	**928 [438] ◭ (258)**	**774 [365] ◭ (233)**
	4 (Max.)	High	208	**1194 [564] ◭ (377)**	1214 [573] (366)	1214 [573] (352)	1193 [563] (334)	1145 [540] (313)	1067 [504] (290)	**957 [452] ◭ (266)**	**810 [382] ◭ (240)**	—
-21	None	Low	230	**1525 [720] ◭ (535)**	1550 [732] (521)	1562 [737] (504)	1559 [736] (484)	1536 [725] (461)	1487 [702] (434)	**1409 [665] ◭ (404)**	**1296 [612] ◭ (369)**	**1144 [540] ◭ (331)**
	5 (Max.)	Low	230	**1531 [723] ◭ (523)**	1542 [728] (508)	1544 [729] (489)	1528 [721] (467)	1485 [701] (440)	1409 [665] (409)	**1289 [608] ◭ (373)**	**1119 [528] ◭ (333)**	**890 [420] ◭ (287)**
	None	Low	208	**1255 [592] ◭ (443)**	1284 [606] (440)	1316 [621] (433)	1340 [632] (421)	1350 [637] (405)	1335 [630] (385)	**1287 [607] ◭ (359)**	**1197 [565] ◭ (329)**	**1057 [499] ◭ (294)**
	5 (Max.)	Low	208	**1252 [591] ◭ (442)**	1280 [604] (437)	1309 [618] (427)	1327 [626] (412)	1323 [624] (392)	1286 [607] (367)	**1204 [568] ◭ (336)**	**1065 [503] ◭ (300)**	—
	None	High	230	**1878 [886] ◭ (628)**	1845 [871] (598)	1807 [853] (571)	1758 [830] (545)	1696 [800] (519)	1615 [762] (492)	**1512 [714] ◭ (462)**	**1383 [653] ◭ (429)**	**1223 [577] ◭ (390)**
	5 (Max.)	High	230	**1838 [867] ◭ (603)**	1797 [848] (576)	1751 [826] (549)	1694 [799] (522)	1618 [764] (493)	1514 [715] (461)	**1376 [649] ◭ (427)**	**1195 [564] ◭ (389)**	**963 [454] ◭ (346)**
	None	High	208	**1625 [767] ◭ (559)**	1635 [772] (541)	1634 [771] (521)	1618 [764] (498)	1583 [747] (474)	1525 [720] (446)	**1440 [680] ◭ (415)**	**1323 [624] ◭ (381)**	**1171 [553] ◭ (343)**
	5 (Max.)	High	208	**1625 [767] ◭ (553)**	1617 [763] (529)	1604 [757] (504)	1575 [743] (477)	1524 [719] (447)	1441 [680] (415)	**1318 [622] ◭ (380)**	**1146 [541] ◭ (341)**	**917 [433] ◭ (299)**
-24	None	High	230	**2210 [1043] ◭ (772)**	2223 [1049] (753)	2215 [1045] (730)	2183 [1030] (706)	2124 [1002] (678)	2032 [959] (646)	**1907 [900] ◭ (611)**	**1742 [822] ◭ (571)**	**1537 [725] ◭ (527)**
	6 (Max.)	High	230	**2206 [1041] ◭ (754)**	2189 [1033] (726)	2150 [1015] (698)	2084 [984] (669)	1989 [939] (637)	1860 [878] (602)	**1694 [799] ◭ (564)**	**1487 [702] ◭ (521)**	—
	None	High	208	**1859 [877] ◭ (641)**	1901 [897] (633)	1931 [911] (622)	1944 [917] (608)	1930 [911] (589)	1881 [888] (565)	**1791 [845] ◭ (536)**	**1650 [779] ◭ (501)**	**1451 [685] ◭ (459)**
	6 (Max.)	High	208	**1866 [881] ◭ (632)**	1906 [900] (624)	1921 [907] (610)	1906 [900] (589)	1854 [875] (563)	1761 [831] (532)	**1619 [764] ◭ (496)**	**1424 [672] ◭ (455)**	—

*For 115 and 460 volt units use 230 volt data shown above.

◭ WARNING: Observe airflow operating limits if operating in area of airflow table shown in bold.

[ ] Designates Metric Conversions

Blower Motor Electrical Data

Model Size/Elec. Designation	Voltage	Phase	Hertz	HP [W]	RPM	Speeds	Circuit Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
14A	115	1	60	1/8 [93]	825	2	2.8	3.5	15
17A	115	1	60	1/4 [186]	825	2	4.0	5.0	15
21A	115	1	60	1/3 [249]	825	2	5.6	7.0	15
24A	115	1	60	1/2 [373]	825	1	6.8	8.5	15
14J	208/240	1	50/60	1/8 [93]	825	2	1.4	1.8	15
17J/17C	208/240	1	50/60	1/4 [186]	825	2	2.0	2.5	15
21J/21C	208/240	1	50/60	1/3 [249]	825	2	2.8	3.5	15
24J/24C	208/240	1	50/60	1/2 [373]	825	1	3.4	4.3	15
The above motors are also used on “C” electrical designation with electric heat.									
21D	480	1	60	1/3 [249]	825	2	1.4	1.8	15
24D	480	1	60	1/2 [373]	825	1	1.7	2.2	15

Electric Heat Electrical Data

Model Elec./kW Designation	Heater kW 208/240 V.	PH/Hz	Heater No./kW	Type Supply Circuit Single Circuit Multiple Circuit	Circuit Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
J04	2.6/3.5	1/60	1/3.5	Single Circuit	16.0/18.0	20.0/22.5	20/25
J06	3.7/4.9	1/60	2/2.5	Single Circuit	21.1/23.8	26.4/29.8	30/30
J07	5.3/7.0	1/60	2/3.5	Single Circuit	28.7/32.6	35.9/40.8	40/45
J11	7.3/9.8	1/60	3/3.3	Single Circuit	38.6/44.0	48.3/55.0	50/60
J14	10.5/14.0	1/60	4/3.5	Single Circuit	54.0/61.7	67.5/77.2	70/80
				Multiple Ckt. 1	27.7/32.6	35.9/40.7	40/45
				Multiple Ckt. 2	25.3/29.2	31.6/36.5	35/40
J18	13.2/17.5	1/60	5/3.5	Single Circuit	66.6/76.3	83.3/95.4	90/100
				Multiple Ckt. 1	41.3/47.2	51.7/59.0	60/60
				Multiple Ckt. 2	25.3/29.2	31.6/36.5	35/40
J21	15.8/21.0	1/60	6/3.5	Single Circuit	79.3/90.9	99.1/113.7	100/125
				Multiple Ckt. 1	41.3/47.2	51.7/59.0	60/60
				Multiple Ckt. 2	37.9/43.8	47.4/54.7	50/60
C08	5.5/7.4	3/60	3/2.5	Single Circuit	18.4/20.7	22.9/25.9	25/30
C11	7.5/10.0	3/60	3/3.3	Single Circuit	23.9/27.1	29.8/33.8	30/35
C14	10.5/14.0	3/60	4/3.5	Single Circuit	36.7/41.9	45.9/52.4	50/60
C18	13.2/17.5	3/60	5/3.5	Multiple Ckt. 1	24.9/28.3	31.2/35.4	35/40
				Multiple Ckt. 2	21.9/25.3	27.4/31.6	30/35
C21	15.8/21.0	3/60	6/3.5	Multiple Ckt. 1	24.9/28.3	31.2/35.4	35/40
				Multiple Ckt. 2	21.9/25.3	27.4/31.6	30/35

- Supply circuit protective devices may be fused or “HACR” type circuit breakers.
- If non-standard fuse size is specified, use next size larger standard fuse size.
- Largest motor load is included in single circuit and circuit 1 multiple circuit.
- Heater loads are balanced on 3 PH. models with 3 or 6 heaters only.

[ ] Designates Metric Conversions

Electric Heat Electrical Data, continued

Model Elec./kW Designation	Heater kW 208/240 V.	PH/Hz	Heater No./kW	Type Supply Circuit Single Circuit Multiple Circuit	Circuit Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
	Volts 480						
D08	6.7	3/60	3/2.2	Single Circuit	9.8	12.3	15
D09	9.8	3/60	3/3.3	Single Circuit	13.5	16.9	20
D16	14.7	3/60	6/2.5	Single Circuit	19.2	24.0	25
D21	21.0	3/60	6/3.5	Single Circuit	26.8	33.4	35

- Supply circuit protective devices may be fused or "HACR" type circuit breakers.
- If non-standard fuse size is specified, use next size larger standard fuse size.
- Largest motor load is included in single circuit and circuit 1 multiple circuit.
- Heater loads are balanced on 3 PH. models with 3 or 6 heaters only.

Copper Wire Size—AWG. (3% Voltage Drop)

SUPPLY WIRE LENGTH FEET [m]																	
200 [61]	12	10	8	8	8	6	6	6	4	4	3	3	2	2	1	0	00
150 [46]	12	10	10	10	8	8	6	6	6	4	4	3	3	2	1	0	00
100 [30]	14	12	10	10	8	8	8	6	6	4	4	3	3	2	1	0	00
50 [15]	14	12	10	10	8	8	8	6	6	4	4	3	3	2	1	0	00
	15	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**125**	**150**	**175**

SUPPLY CIRCUIT AMPACITY

NOTE: Wire based on copper conductors 75°C minimum rating.
For more than 3 conductors in a raceway or cable,
see N.E.C. for derating the ampacity of each conductor.

[ ] Designates Metric Conversions

Combustible Floor Base for Downflow Installations

Model Cabinet Size	Combustible Floor Base Model Number	Opening Front of Unit "W" Width-Inches [mm]	Opening Side of Unit "D" Depth-Inches [mm]
-14 -17 -21 -24	RXBB-AA	14 3/8 [365]	20 5/8 [524]

ACCESSORIES—KITS—PARTS

- **Combustible Floor Base RXBB-AA** for downflow applications.
- **Jumper Bar Kit 2 Ckt. to 1 Ckt. RXBJ-A21** is used to convert single phase multiple two circuit units to a single supply circuit. Kit includes cover and screw for line side terminals.
- **Jumper Bar Kit 3 Ckt. to 1 Ckt. RXBJ-A31** is used to convert single phase multiple three circuit units to a single supply circuit. Kit includes cover and screw for line side terminals.
- **Note:** No jumper bar kit is available to convert three phase multiple two circuit units to a single supply circuit.
- If a factory supplied jumper bar for single supply circuit is removed from unit to make multiple supply circuits, the line side of the circuit breakers must be covered with finger safe covers. Each circuit breaker pole must be covered with a finger safe cover.
- **Finger Safe Circuit Breaker Cover**—Part Number 45-23203-01. One is required for each circuit breaker pole, if jumper bar is removed to provide multiple supply circuits.
- **Horizontal Drain Pan Accessories**
  RXBD-CA
  x50 = Bulk Pack.

- **Replacement Filters**

Model Cabinet Size	Filter Size In. [mm]	Part Number
-14	12.75 x 21 [324 x 533]	54-23217-01
-17	16.25 x 21 [413 x 533]	54-23217-02
-21	19.75 x 21 [502 x 533]	54-23217-03
-24	23.25 x 21 [591 x 533]	54-23217-04

[ ] Designates Metric Conversions

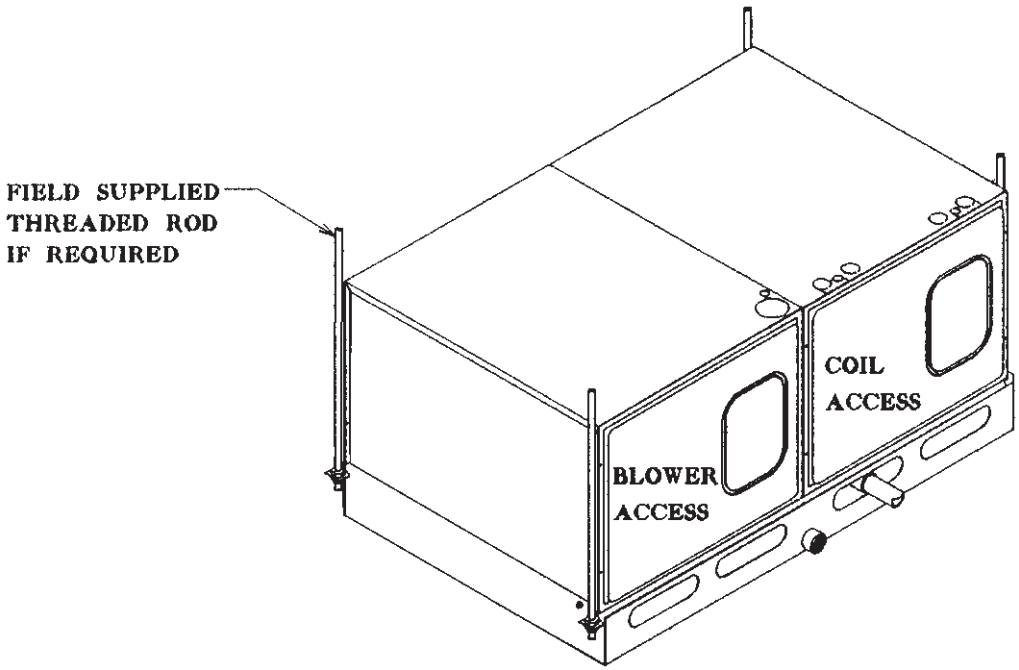
METERING DEVICE

RCGA- COILS						
Coil Size	24	24	36	37	48	60
TX Valve Metering Code	A1	A2	A1	A2	A1	A1
Valve Size (Ton)	1 1/2	2	2 1/2	3	4	5
Piston Size	.089	.120	.140	.157	.157	.172

RCHA- COILS					
Coil Size	24	24	36	48	60
TX Valve Metering Code	A1	A2	A1	A1	A1
Valve Size (Ton)	1 1/2	2	2 1/2 & 3	3 1/2 & 4	5
Piston Size	.089	.120	.157	.157	.172

ACCESSORIES (cont.)

- **RXBM-AA06**—Horizontal drain pan. (One size fits all models).



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

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

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