# Ruud Standard Efficiency Air Handler



**RH1P- Series** 

PSC Motor Efficiencies up to 15 SEER

**RH1Q\*- Series** Constant Torque Motor Efficiencies up to 15 SEER



- Versatile 4-way convertible design for upflow, downflow, horizontal left and horizontal right applications.
- Factory-installed indoor coil.
- Sturdy cabinet construction with 1.0 inch [25.4 mm] of foil faced insulation for excellent sound and insulating characteristics.
- Field-installed auxiliary electric heater kits provide exact heat for indoor comfort. Kits include circuit breakers which meet U.L. and cUL requirements for service disconnect.
- 1 1/2 ton [5.3 kW] through 5 ton [17.6 kW] models are between 421/2 to 551/2 inches [1080 to 1410 mm] tall and 22 inches [559 mm] deep.
- All models meet or exceed 330 to 400 CFM [156 to 189 L/s] per ton at .3 inches [.7 kPa] of external static pressure.
- Enhanced airflow up to .7" external static pressure.
- Evaporator is constructed of aluminum fins bonded to internally grooved aluminum tubing.
- Cabinet air leakage less than 2% at 1 inch H<sub>2</sub>O when tested in accordance with ASHRAE standard 193

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# TABLE OF CONTENTS

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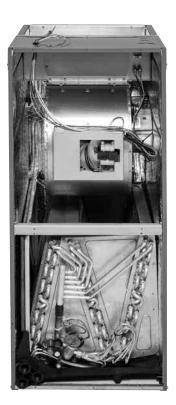
Engineering Features	3
Model Number Identification	4
Dimensional Data	5-6
Airflow Directional Data	7
Airflow Performance Data	8-13
Electrical Data	14-17
Electrical Wiring	18
Accessories	18
Limited Warranty	19

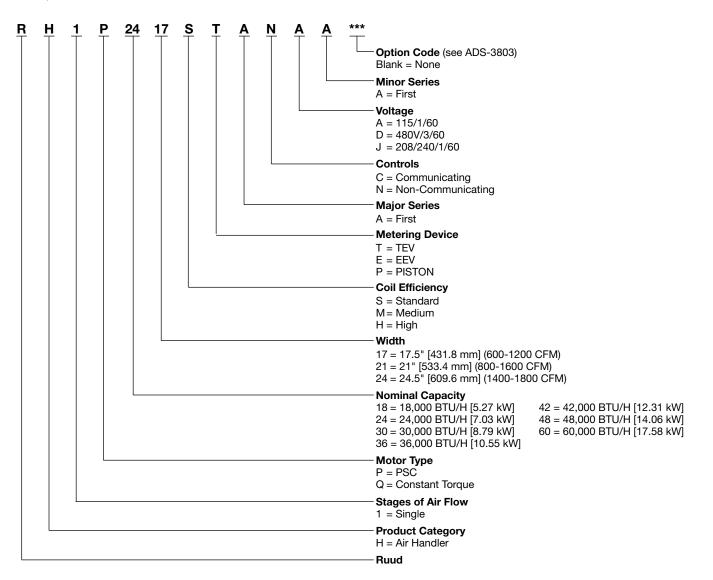
## **Engineering Features**

#### RH1P/RH1Q- Series

- The most compact unit design available, all standard heat air handler models only 421/2 to 551/2 inches [1079 to 1409 mm] high.
- Attractive pre-painted cabinet exterior.
- Rugged wall steel cabinet construction, designed for added strength and versatility.
- 1.0" foil faced insulation mechanically retained in blower compartment for excellent thermal and sound performance.
- Four leg blower motor mount.
- Blower housing with controls, motor and blower. Slide out design for service and maintenance convenience.
- Traditional open wire element design for heat applications.
- Field convertible for vertical downflow, horizontal left hand or right hand air supply.
- 3 combustible floor base accessories fit all model sizes when required for downflow installations on combustible floors.
- Indoor coil design provides low air side pressure drop, high performance and extremely compact size.
- Expansion valve on indoor coil provides for operation with air conditioning.
- [ ] Designates Metric Conversions

- Coils are constructed of aluminum fins bonded to internally grooved aluminum tubing.
- Coils are tested at the factory with an extensive refrigerant leak check.
- Coils have copper sweat refrigerant connections.
- Coils utilize chatleff metering device connections.
- Molded polymer corrosion resistant condensate drain pan is provided on all indoor coils.
- Supply duct flanges provided as standard on air handler cabinet.
- Provisions for field electrical, connections available from either side or top of the air handler cabinet.
- Connection point for high voltage wiring is inside the air handler cabinet. Low voltage connection is made on the outside of the 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<sup>1</sup>/<sub>2</sub> inch [38 mm] conduit.
- Front refrigerant and drain connections.



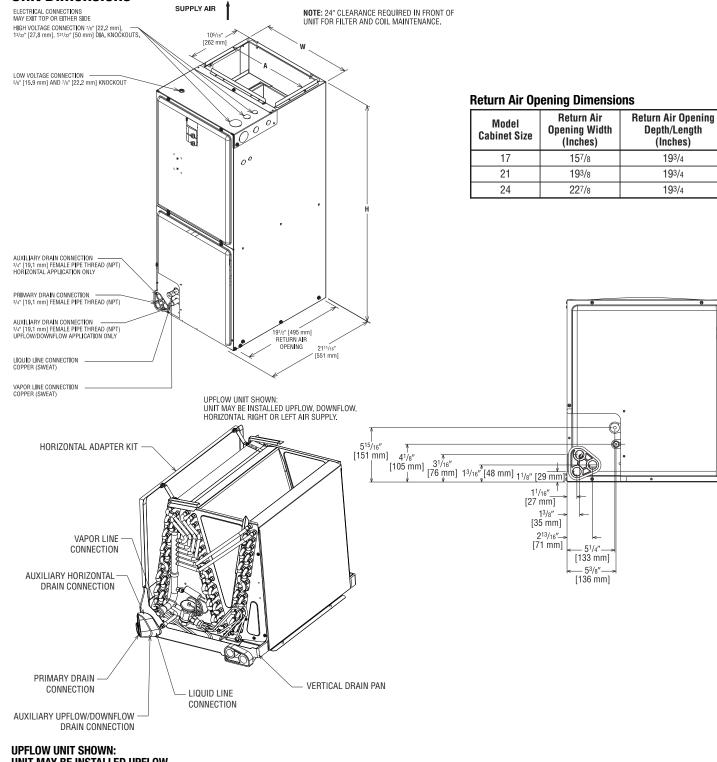


Available Models at 115V A Voltage
RH1P1817STANAA
RH1P2417STANAA
RH1P3017STANAA
RH1P3617STANAA
RH1P4221STANAA
RH1P4821STANAA

Available Models at 218V J Voltage
RH1P1817STANJA
RH1P2417STANJA
RH1P3017STANJA
RH1P3617STANJA
RH1P3621STANJA
RH1P4221STANJA
RH1P4821STANJA
RH1P4824STANJA
RH1P6024STANJA
RH1Q4221STANJA

Available Models at D Voltage
RH1P3617STANDA
RH1P4221STANDA
RH1P4821STANDA
RH1P4824STANDA
RH1P6024STANDA

### **Unit Dimensions**



#### UNIT MAY BE INSTALLED UPFLOW, DOWNFLOW, HORIZONTAL RIGHT OR LEFT AIR SUPPLY.

- [ ] Designates Metric Conversions
- () Designates Unit with Double Coil Cabinet

#### **Unit Dimensions & Weights**

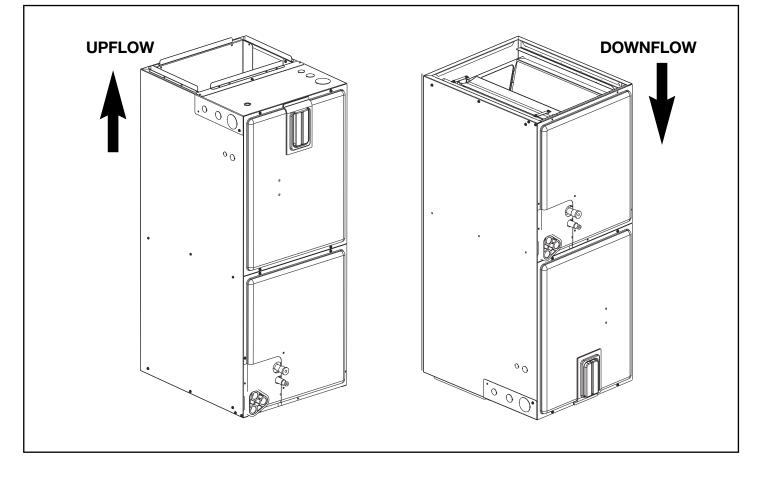
Model Size		t Connections 1.) [mm] ID	Unit Unit Width Height		Supply Duct		Flow m.) [L/s]	Unit Weight/Shipping Weight (Lbs.) [kg]
RH1P	Liquid	Vapor	"W" In. [mm]	"H" In. [mm]			Hi	Unit With Coil (Max. KW)
1817ST/2417ST	<sup>3</sup> /8 [9.53]	<sup>3</sup> /4 [19.05]	17 <sup>1</sup> /2 [445]	42 <sup>1</sup> /2 [1080]	16 [406]	600 [283]	800 [378]	81/95 [37/43]
3017ST/3617ST	<sup>3</sup> /8 [9.53]	<sup>3</sup> /4 [19.05]	17 <sup>1</sup> /2 [445]	42 <sup>1</sup> /2 [1080]	16 [406]	1000 [472]	1200 [566]	90/104 [41/47]
3621ST	3/8 [9.53]	7/8 [22.23]	21 [533]	421/2 [1080]	19 <sup>1</sup> /2 [495]	1200 [566]	—	109/124 [49/56]
4221ST/4821ST	3/8 [9.53]	7/8 [22.23]	21 [533]	50 <sup>1</sup> /2 [1282]	19 <sup>1</sup> /2 [495]	1400 [661]	1600 [755]	130/146 [59/66]
4824ST	<sup>3</sup> /8 [9.53]	7/8 [22.23]	241/2 [622]	50 <sup>1</sup> /2 [1282]	23 [584]	1600 [755]	_	143/161 [65/73]
6024ST	<sup>3</sup> /8 [9.53]	<sup>7</sup> /8 [22.23]	241/2 [622]	55 <sup>1</sup> /2 [1410]	23 [584]	—	1800 [850]	164/181 [75/82]

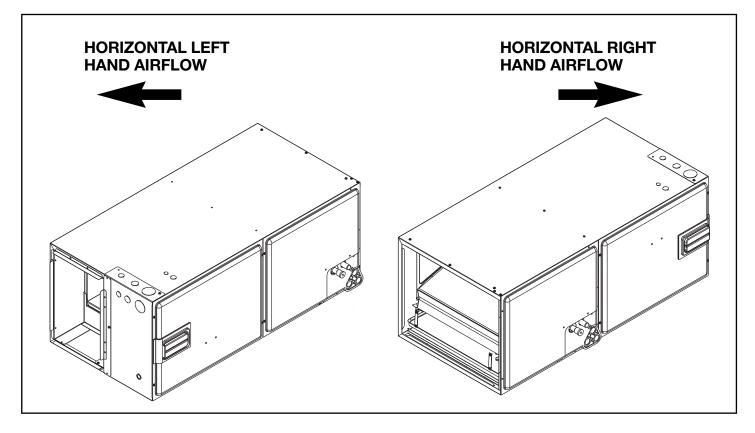
\*Maximum dehumidification airflow.

#### **Unit Dimensions & Weights**

Model Size		Connections 1.) [mm] ID	Unit Width	Unit Height	Supply Duct	Air Flow CFM (Nom.) [L/s]		Unit Weight/Shipping Weight (Lbs.) [kg]
RH1Q	Liquid	Vapor	"W" In. [mm]	"H" In. [mm]	"A" In. [mm]	Lo	Hi	Unit With Coil (Max. KW)
4221ST	<sup>3</sup> /8 [9.53]	7/8 [22.23]	21 [533]	501/2 [1282]	191/2 [495]	1400 [661]	1600 [755]	128/144 [56/65]

# **Airflow Directional Data**





### **Airflow Performance**

Airflow performance data is based on cooling performance with a coil and no 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 .3 [8 mm] to .7 inches [18 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.

# **Airflow Operating Limits**

Model Cabinet Size	1	7	17	//21		21		2	4
Cooling BTUH x 1,000 Cooling Tons Nominal	-018 1.5	-024 2	-030 2.5	-036 3	-038 3.5	-042 3.5	-048 4	-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]	1350 [637]	1575 [743]	1800 [850]	1800 [850]	1930 [911]
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]	1200 [566]	1400 [661]	1600 [755]	1600 [755]	1800 [850]
Heat Pump or Air Conditioning Minimum Heat/Cool CFM [L/s] (30.0 CFM [14 L/s]/1,200 BTUH) (360 CFM [170 L/s]/Ton Nominal)	540 [255]	720 [340]	900 [425]	1080 [510]	1080 [510]	1260 [595]	1440 [680]	1440 [680]	1620 [765]
Maximum kW Electric Heating & Minimum Electric Heat CFM [L/s]	13 487 [230]	13 617 [291]	18 814 [384]	18 1054 [497]	18 1042 [492]	20 1171 [553]	25 1502 [709]	25 1502 [709]	30 1666 [786]
Maximum Electric Heat Rise °F [°C]	80 [26.7]	63 [17.2]	66 [18.9]	51 [10.6]	52 [11.1]	49 [9.4]	50 [10]	50 [10]	54 [12.2]

### 115V/208V/480V Airflow Performance Data—RH1P (PSC Motor)

Model	Motor	Manufacturer	Blower Size/				PSC CFM [L	/s] Air Delive	ry/RPM/Watts	s—115V/208	V/480V Volts	
No.	Speed from	Recommended Air-Flow Range	Motor HP (W)	Motor Speed			Ex	ternal Static I	Pressure—In	ches W.C. [k	Pa]	
RH1P	Factory	(Min/Max) CFM	# of Speed	Sheen		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
		, , , , , , , , , , , , , , , , , , ,			CFM	668 [315]	637 [301]	595 [281]	560 [264]	517 [244]	_	_
				Low	RPM	541	596	657	706	761	_	_
1817ST	High	517/711 CFM	10x6		Watts	180	171	166	161	109	_	_
No Heater	240V	[244/336 L/s]	1/5 HP [149] 2 Speed		CFM	_	_	_	_	711 [336]	662 [312]	614 [290]
				High	RPM	_	_	_	_	812	853	890
					Watts	—	_	—	_	243	227	210
					CFM	638 [301]	607 [286]	565 [267]	530 [250]	487 [230]	—	_
				Low	RPM	571	626	687	736	791	—	_
1817ST with 13 kW	High	487/661 CFM	10x6 1/5 HP [149]		Watts	171	162	157	152	146	—	_
Heater	240V	[230/312 L/s]	2 Speed		CFM	_	-	—		661 [312]	612 [289]	564 [266]
				High	RPM	_	_	—		837	878	915
					Watts					232	216	199
					CFM	817 [386]	779 [368]	757 [357]	693 [327]	647 [305]	—	—
				Low	RPM	616	667	715	770	808	—	_
2417ST	High	647/888 CFM	10x6 1/5 HP [149]		Watts	239	230	221	206	205	—	_
No Heater	240V	[305/419 L/s]	2 Speed		CFM	—	—	—	_	888 [419]	828 [391]	774 [365]
				High	RPM	-	_	—		875	908	958
					Watts			—		331	313	301
					CFM	787 [371]	749 [353]	727 [343]	663 [313]	617 [291]	—	_
		617/838 CFM	10x6 1/5 HP [149] 2 Speed	Low	RPM	646	697	745	800	838	—	—
2417ST with 13 kW	High				Watts	230	221	212	197	187	—	_
Heater	240V	[291/395 L/s]			CFM	—	_	—	_	838 [395]	778 [367]	724 [342]
				High	RPM	_	—	—	_	900	933	983
					Watts					320	302	290
					CFM	1022 [482]	987 [466]	940 [444]	903 [426]	864 [408]	—	—
				Low	RPM	700	754	794	633	870	—	—
3017ST	High	864/1004 CFM	10x8 1/4 HP [186]		Watts	344	313	302	309	288	—	—
No Heater	240V	[408/474 L/s]	2 Speed		CFM	—	—	—	_	1004 [474]	951 [449]	883 [417]
				High	RPM					924	953	975
					Watts	—	—	—	—	364	352	344
					CFM	972 [459]	937 [442]	890 [420]	853 [403]	814 [384]	—	—
				Low	RPM	750	804	844	883	920	—	—
3017ST with 18 kW	High	814/904 CFM	10x8 1/4 HP [186]		Watts	324	293	282	274	268	—	—
Heater	240V	[384/427 L/s]	2 Speed		CFM	_	_	—	_	904 [427]	851 [402]	783 [370]
				High	RPM	_	_	_	_	949	978	1000
					Watts			—		334	322	314
					CFM	1201 [567]	1170 [552]	1141 [538]	1104 [521]	1062 [501]	_	_
001707/			10.0	Low	RPM	833	872	909	951	965	—	—
3617ST/ 3621ST	High	1104/1248 CFM	10x8 1/3 HP [249]		Watts	462	427	406	396	385	—	—
No Heater		[521/589 L/s]	1/3 HP [249] 2 Speed		CFM	_	_	—	_	1194 [563]	1134 [535]	1078 [509]
				High	RPM			—		1024	1042	1060
					Watts	—	—	—	—	475	454	417

 Notes:
 • All 208/240V PSC motors have voltage taps for 208 and 240 volts.
 • All 208/240V PSC motors are shipped on high speed and 240 volts.

 • If the application external static is less than 0.5" WC, adjust the motor speed to the low static speed as described below:
 • Unplug the black motor wire off the relay on the control board and plug in the red motor wire.

 • Replace the cap on the black motor wire.
 • Voltage change (208/240V motors):

 • Move the orange lead to transformer 208V tap from 240V tap. Replace the wire cap on 240V tap.

 • Unplug the purple motor wire off the transformer and plug in the yellow motor wire.

 • Replace the cap on the purple motor wire.

 • Beplace the cap on the purple motor wire.

 • Inplug the purple motor wire off the transformer and plug in the yellow motor wire.

 • Replace the cap on the purple motor wire.

 • Replace the cap on the purple motor wire.

 • Replace the cap on the purple motor wire.

 • The above airflow table lists the airflow information for air handlers without heater and air handler with maximum heater allowed for each model.

 • The following formula can be used to calculate the approximate airflow if a smaller (N kW) than the maximum heater kit is installed

The following formula can be used to calculate the approximate airflow, if a smaller (N kW) than the maximum heater kit is installed.
 Approximate Airflow = Airflow without heater - (Airflow without heater - Airflow with maximum heater) x (N kW/maximum heater kW)

### 115V/208V/480V Airflow Performance Data—RH1P (PSC Motor)

Model	Motor	Manufacturer	Blower Size/				PSC CFM [	L/s] Air Deliv	ery/RPM/Wa	tts—115/208,	/480V Volts	
No.	Speed	Recommended Air-Flow Range	Motor	Motor			Ext	ternal Static I	Pressure—In	ches W.C. [k	Pa]	
RH1P	from Factory	(Min/Max) CFM	HP [W] # of Speed	Speed		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
					CFM	1151 [543]	1120 [529]	1091 [515]	1054 [497]	1012 [478]	_	_
0617CT/				Low	RPM	883	922	959	1001	1015	_	_
3617ST/ 3621ST	Llink	1060/1148 CFM	10x8		Watts	442	407	386	376	365	_	_
with 18 kW	High	[500/542 L/s]	1/3 HP [249] 2 Speed		CFM	—	—	_	—	1094 [516]	1034 [488]	978 [462]
Heater				High	RPM	—	—	—	—	1049	1067	1085
					Watts	—	—	—	—	445	424	387
					CFM	1493 [705]	1449 [684]	1363 [643]	1287 [607]	1211 [571]	—	—
				Low	RPM	822	858	885	931	958	—	—
4221ST	High	1241/1537 CFM	10x10 1/2 HP [373]		Watts	540	519	506	484	459	_	_
No Heater	riigii	[586/725 L/s]	2 Speed		CFM	—	_		_	1514 [714]	1411 [666]	1315 [621]
				High	RPM	—	—	—	—	1061	1069	1078
					Watts	—	—	—	—	710	702	677
					CFM	1423 [672]	1379 [651]	1293 [610]	1217 [574]	1141 [538]	—	—
				Low	RPM	870	882	925	957	992	—	—
4221ST with 20 kW	High	1225/1500 CFM	10x10 1/2 HP [373]		Watts	514	508	490	461	431	—	—
Heater	riigii	[579/708 L/s]	2 Speed		CFM	—	—	—	—	1414 [667]	1311 [619]	1215 [573]
				High	RPM	—	—	—	—	1067	1080	1094
					Watts	_	_	—	_	700	678	665
			10x10 3/4 HP [559] 2 Speed		CFM	1488 [702]	1419 [670]	1466 [692]	1430 [675]	1395 [658]	_	_
100107/		1395/1824 CFM		Low	RPM	812	861	912	943	973	_	_
4821ST/ 4824ST	High				Watts	554	545	526	508	491	_	_
No Heater	ingi	[658/861 L/s]			CFM	—	—	—	—	1824 [861]	1767 [834]	1653 [780]
				High	RPM	—	—	—	—	1102	1112	1121
					Watts	—	—	—	—	871	830	770
					CFM	1418 [669]	1349 [637]	1396 [659]	1360 [642]	1325 [625]	—	—
4821ST/			10.10	Low	RPM	862	899	935	965	995	—	—
4824ST	High	1225/1500 CFM	10x10 3/4 HP [559]		Watts	534	525	506	488	471	_	_
with 25 kW Heater	Ŭ	[579/708 L/s]	2 Speed		CFM	_	_	_	_	1724 [814]	1667 [787]	1553 [733]
				High	RPM	_	_	_	_	1116	1119	1130
					Watts	—	—	—	—	810	780	730
					CFM	1866 [881]	1833 [865]	1806 [852]	1772 [836]	1710 [807]	—	—
			11x11	Low	RPM	764	803	824	856	886	—	_
6024ST	High	1710/1967 CFM [807/928 L/s]	3/4 HP [559]		Watts	778	756	733	715	701	—	—
No Heater		[007/920 L/S]	2 Speed		CFM	_	_	_	_	1967 [928]		1863 [879]
				High	RPM			_		948	959	991
					Watts	-	-	4700 (010)	-	850	827	816
					CFM	1796 [848]	1763 [832]	1736 [819]	1702 [803]	1640 [774]		_
6024ST			11x11	Low	RPM	828	860	878	890	1001	_	_
with 30 kW	High	1640/1796 CFM [773/847 L/s]	3/4 HP [559]		Watts	735	718	705	695	678		
Heater			2 Speed	11:	CFM	_	_	_	_	1867 [881]	1816 [857]	1763 [832]
				High	RPM	—	—	_	_	989	1005	1020
					Watts	—	—	—	_	818	795	780

Notes: • All 208/240V PSC motors have voltage taps for 208 and 240 volts.

All 208/240V PSC motors are shipped on high speed and 240 volts.

All 115V PSC motors are shipped on high speed

• If the application external static is less than 0.5" WC, adjust the motor speed to the low static speed as described below:

Unplug the black motor wire off the relay on the control board and

plug in the red motor wire.

• Replace the cap on the black motor wire.

Voltage change (208/240V motors):

 Move the orange lead to transformer 208V tap from 240V tap. Replace the wire cap on 240V tap.

Unplug the purple more wire off the transformer and plug in the yellow motor wire.

Replace the cap on the purple motor wire.

All 480V PSC motors are shipped on high speed.

 If the application external static is less than 0.5" WC, adjust the motor speed to the low static speed as described below for 3-ton through 4-ton air handlers. Unplug the black motor wire off the relay and remove the cap from

the red motor wire.

• Plug the red motor wire to the relay and connect the black motor wire with the yellow motor wire.

 For 5-ton air handler, unplug the black motor wire off the relay and plug in the red motor wire, then cap the black motor wire. There is no yellow motor wire on 5-ton air handler.

WARNING: Do not connect red motor wire with yellow motor wire in any circumstance on 480V PSC motors. Connecting red motor wire with yellow motor wire will result in permanent motor damage.

 The above airflow table lists the airflow information for air handlers without heater and air handler with maximum heater allowed for each model.

The following formula can be used to calculate the approximate airflow, if a smaller (N kW) than the maximum heater kit is installed. Approximate Airflow = Airflow without heater - (Airflow without heater - Airflow with maximum heater) x (N kW/maximum heater kW)

### 240V Airflow Performance Data—RH1P (PSC Motor)

Model	Motor	Manufacturer	Blower Size/				PSC C	CFM [L/s] Air	Delivery/RPN	//Watts—240	Volts	
No.	Speed	Recommended	Motor HP [W]	Motor			Ext	ternal Static	Pressure—In	ches W.C. (kl	Pa]	
RH1P	from Factory	Air-Flow Range (Min/Max) CFM	# of Speed	Speed		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
					CFM	681 [321]	636 [300]	606 [286]	567 [268]	523 [247]	_	_
				Low	RPM	541	601	670	714	768	_	_
1817ST	High	523/705 CFM	10x6		Watts	193	181	173	164	157	_	_
No Heater	240V	[247/333 L/s]	1/5 HP [149] 2 Speed		CFM	_	_	_	_	705 [333]	650 [307]	599 [283]
			_ opood	High	RPM	_	_	_	_	815	861	989
					Watts	_	_	_	_	239	227	204
					CFM	651 [307]	606 [286]	576 [272]	537 [253]	493 [233]	_	_
				Low	RPM	571	631	700	744	798	_	_
1817ST with 13 kW	High	493/655 CFM	10x6 1/5 HP [149]		Watts	184	172	164	155	148	—	_
Heater	240V	[233/309 L/s]	2 Speed		CFM	_	_	—	—	655 [309]	600 [283]	549 [259]
				High	RPM		_	—	—	840	886	1014
					Watts	-	_	—	—	228	216	193
					CFM	875 [413]	806 [380]	787 [371]	739 [349]	682 [322]	—	_
				Low	RPM	648	700	745	794	827	—	_
2417ST	High	682/897 CFM	10x6 1/5 HP [149]		Watts	259	255	243	234	227	—	
No Heater	240V	[322/423 L/s]	2 Speed		CFM	-	_	—	—	897 [423]	851 [402]	765 [361]
				High	RPM			—	—	906	925	955
				Watts			—	—	332	318	306	
					CFM	845 [399]	776 [366]	757 [357]	709 [335]	652 [308]	—	
		652/847 CFM	10x6 1/5 HP [149] 2 Speed	Low	RPM	678	730	775	824	857	—	
2417ST with 13 kW	High			High	Watts	250	246	234	225	218	—	
Heater	240V	[308/400 L/s]			CFM	_	—	—	—	847 [400]	801 [378]	715 [337]
					RPM	—	—	—	—	931	950	980
					Watts	_	—	—	—	321	307	295
					CFM	1038 [490]	1010 [477]	976 [461]	925 [437]	883 [417]		—
			10.0	Low	RPM	721	771	799	848	880	_	_
3017ST	High	883/1015 CFM	10x8 1/4 HP [186]		Watts	325	314	303	290	286		_
No Heater	240V	[417/479 L/s]	2 Speed		CFM	_	_	—	_	1015 [479]	963 [454]	890 [420]
				High	RPM	_	_	—	—	928	955	974
					Watts	_	_	—	—	356	341	329
					CFM	988 [466]	960 [453]	926 [437]	875 [413]	833 [393]		
001707			10.0	Low	RPM	771	821	849	898	930		_
3017ST with 18 kW	High	833/915 CFM	10x8 1/4 HP [186]		Watts	305	294	283	270	266		-
Heater	240V	[393/432 L/s]	2 Speed		CFM	_	—	—	_	915 [432]	863 [407]	790 [373]
				High	RPM	—	—	—	—	953	980	999
					Watts	_	—	—	—	326	311	299
					CFM	1229 [580]	1201 [567]	1170 [552]	1141 [538]	1104 [521]	—	—
261707/			10-0	Low	RPM	788	833	872	909	951		
3617ST/ 3621ST	High	1104/1194 CFM	10x8 1/3 HP [249]		Watts	466	462	427	406	395	—	_
No Heater	240V	[521/563 L/s]	2 Speed		CFM	_	_	—	—	1248 [589]	1194 [563]	1133 [535]
				High	RPM				—	1008	1028	1042
					Watts	—	—	—	—	488	475	454

Notes: • All 208/240V PSC motors have voltage taps for 208 and 240 volts.
• All 208/240V PSC motors are shipped on high speed and 240 volts.
• All 115V PSC motors are shipped on high speed.
• If the application external static is less than 0.5" WC, adjust the motor speed to the low static speed as described below:
• Unplug the black motor wire off the relay on the control board and plug in the red motor wire.

Plug in the red motor wire.
Replace the cap on the black motor wire.
Voltage change (208/240V motors):

Move the orange lead to transformer 208V tap from 240V tap.

Replace the wire cap on 240V tap.

• Unplug the purple motor wire off the transformer and plug in the yellow motor wire. • Replace the cap on the purple motor wire.

All 480V PSC motors are shipped on high speed

. If the application external static is less than 0.5" WC, adjust the motor speed to the low static speed as described below for 3-ton through 4-ton air handlers.

. Unplug the black motor wire off the relay and remove the cap from

the red motor wire.

• Plug the red motor wire to the relay and connect the black motor

wire with the yellow motor wire.

• For 5-ton air handler, unplug the black motor wire off the relay and plug in the red motor wire, then cap the black motor wire. There is no yellow motor wire on 5-ton air handler.

WARNING: Do not connect red motor wire with yellow motor wire in any circumstance on 480V PSC motors. Connecting red motor wire with yellow motor wire will result in permanent motor damage.

• The above airflow table lists the airflow information for air handlers without heater and air handler with maximum heater allowed for each model.

• The following formula can be used to calculate the approximate airflow, if a smaller (N kW) than the maximum heater kit is installed. Approximate Airflow = Airflow without heater (Airflow without heater - Airflow with maximum heater) x (N kW/maximum heater kW)

### 240V Airflow Performance Data—RH1P (PSC Motor)

Model	Motor	Manufacturer	Blower Size/	Motor			PSC C	FM [L/s] Air	Delivery/RPN	//Watts—240	) Volts	
No.	Speed from	Recommended Air-Flow Range	Motor HP (W)	Motor Speed			Ex	ternal Static I	Pressure—In	ches W.C. [k	Pa]	
RH1P	Factory	(Min/Max) CFM	# of Speed	oheen		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
					CFM	1179 [556]	1151 [543]	1120 [529]	1091 [515]	1054 [497]	_	—
26176T/				Low	RPM	838	883	922	959	1001	_	_
3617ST/ 3621ST	High	1054/1094 CFM	10x8		Watts	446	442	407	386	375	_	—
with 18 kW	240V	[497/516 L/s]	1/3 HP [249] 2 Speed		CFM	_	—	_	_	1148 [542]	1094 [516]	1033 [487]
Heater				High	RPM	_	_	_	_	1033	1053	1067
					Watts	—	—	—	—	458	445	424
					CFM	1526 [720]	1474 [696]	1427 [673]	1307 [617]	1241 [586]	—	—
				Low	RPM	834	870	902	948	968	—	—
4221ST	High	1211/1514 CFM	10x10 1/2 HP [373]		Watts	560	549	535	476	462	—	—
No Heater	240V	[571/714 L/s]	2 Speed		CFM	_	—	—	—	1537 [725]	1418 [669]	1334 [630]
				High	RPM	_	_	_	—	1072	1077	1085
					Watts	_	—	_	—	860	835	820
					CFM	1456 [687]	1404 [663]	1357 [640]	1237 [584]	1171 [553]	—	—
				Low	RPM	886	906	925	959	992	—	—
4221ST with 20 kW	High	1225/1500 CFM	10x10 1/2 HP [373]		Watts	542	524	505	468	431	—	—
Heater	240V	[579/708 L/s]	2 Speed		CFM	—	—	—	—	1437 [678]	1318 [622]	1234 [582]
				High	RPM		—	—	—	1080	1090	1105
					Watts	_	—	—	—	840	800	785
					CFM	1560 [736]	1550 [731]	1543 [728]	1510 [713]	1455 [687]	—	—
	High	1455/1787 CFM	10x10 3/4 HP [559]	Low	RPM	807	840	914	941	989	—	—
4821ST/ 4824ST					Watts	601	589	553	541	507	—	—
No Heater	240V	[687/843 L/s]	2 Speed		CFM	_	—	—	—	1787 [843]	1679 [792]	1575 [743]
				High	RPM	_	—	—	—	1089	1098	1110
					Watts		—	—	—	695	665	630
					CFM	1490 [703]	1480 [698]	1473 [695]	1440 [680]	1385 [654]	—	—
4821ST/				Low	RPM	857	897	937	974	1011	—	—
4824ST	High	1225/1500 CFM	10x10 3/4 HP [559]		Watts	581	569	533	521	487	—	—
with 25 kW	240V	[579/708 L/s]	2 Speed		CFM		—	_	—	1687 [796]	1579 [745]	1475 [696]
Heater				High	RPM		—	—	—	1095	1107	1120
					Watts		—	—	—	670	635	615
					CFM	1944 [917]	1912 [902]	1860 [878]	1813 [856]	1766 [833]	—	—
				Low	RPM	764	803	838	865	889	—	—
6024ST	High	1766/1965 CFM	11x11 3/4 HP [559]		Watts	779	763	747	729	708	—	—
No Heater	240V	[833/927 L/s]	2 Speed		CFM	_	—	—	—	1965 [927]	1908 [900]	1854 [875]
				High	RPM	_	—	—	—	943	967	977
					Watts	-	—	—	—	828	799	795
					CFM	1844 [870]	1812 [855]	1760 [831]	1713 [808]	1666 [786]	—	_
				Low	RPM	839	865	890	913	935	—	
6024ST with 30 kW	High	1666/1844 CFM	11x11 3/4 HP (550)		Watts	745	729	713	696	678	—	_
Heater	240V	[786/870 L/s]	3/4 HP [559] 2 Speed		CFM		—	_	_	1865 [880]	1808 [853]	1754 [828]
			2 Speed	High	RPM		—	—	_	987	1001	1014
					Watts	_	—	—	—	788	766	744

Notes: • All 208/240V PSC motors have voltage taps for 208 and 240 volts.
• All 208/240V PSC motors are shipped on high speed and 240 volts.
• If the application external static is less than 0.5" WC, adjust the motor speed to the low static speed as described below:
• Unplug the black motor wire off the relay on the control board and plug in the red motor wire.
• Replace the cap on the black motor wire.
• Voltage change (208/240V motors):
• Move the orange lead to transformer 208V tap from 240V tap. Replace the wire cap on 240V tap.
• Unplug the purple motor wire off the transformer and plug in the yellow motor wire.
• Replace the cap on the outrol board and plug in the yellow motor wire.

• Replace the cap on the purple motor wire.

The above airflow table lists the airflow information for air handlers without heater and air handler with maximum heater allowed for each model.
The following formula can be used to calculate the approximate airflow, if a smaller (N kW) than the maximum heater kit is installed. Approximate Airflow = Airflow without heater - (Airflow without heater - Airflow with maximum heater) x (N kW/maximum heater kW)

### 208/240V Airflow Performance Data—RH10

Model		Motor	Blower Size/				C	FM [L/s] Air D	elivery/RPM/V	Vatts (No Filte	r)	
No.	Tonnage Application	Speed From	Motor HP [W]	Motor Speed			E	xternal Static	Pressure—Inc	hes W.C. [kPa	a]	
RH1Q	Approvide	Factory	# of Speed	opou		0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]
					CFM	1473 [695]	1442 [681]	1401 [661]	1373 [648]	1337 [631]		_
				2	RPM	781	825	867	905	949	_	_
4221ST	0 5 Ton	_	10x10		Watts	257	271	303	307	315	_	
No Heater 3.5 Ton	5	3/4 HP [559] 5 Speed		CFM	_	_	—	—	1447 [683]	1433 [676]	1402 [662]	
			3	RPM	—	_	—	—	987	1034	1065	
				Watts	—	_	—	_	394	406	405	
					CFM	1433 [676]	1402 [662]	1361 [642]	1333 [629]	1297 [612]	—	_
4221ST				2	RPM	831	875	919	954	989	—	
with	3.5 Ton	5	10x10 3/4 HP [559] 5 Speed		Watts	277	295	313	319	325	—	
20 kW Heater	3.5 1011			3	CFM	_		_	_	1333 [629]	1300 [613]	1267 [598]
Ticator					RPM	_		_	_	1011	1046	1080
					Watts	_		_	—	350	364	377
					CFM	1665 [786]	1631 [770]	1601 [756]	1572 [742]	1535 [724]	—	_
				4	RPM	853	893	934	968	1015	—	
4221ST	4 Ton	5	10x10 3/4 HP [559]		Watts	351	387	401	406	422	—	_
No Heater	4 1011	5	5 Speed		CFM	—		—	—	1654 [781]	1624 [766]	1563 [738]
				5	RPM	—		—	—	1036	1078	1095
					Watts	—		—	—	500	513	523
					CFM	1625 [767]	1591 [751]	1561 [737]	1532 [723]	1495 [706]	—	
4221ST				4	RPM	894	932	970	1020	1052	—	
with	4 Ton	5	10x10 3/4 HP [559]		Watts	389	400	410	430	450	—	_
25 kW Heater	4 1011	5	5 Speed		CFM	_	_	_	_	1614 [762]	1584 [748]	1523 [719]
ITEALEI				5	RPM	_		_	_	1085	1090	1105
					Watts	_	_	—	—	514	520	530

Notes: • Constant Torque motor speed changes. • All Constant Torque motors have 5 speed tabs.

Speed tab 1 is for continuous fan.
Speed tab 2 (low static) and

• Speed tab 3 (high static) are for lower tonnage.

Speed tab 4 (low static) and
Speed tab 5 (high static) are for higher tonnage.
Constant Torque air handlers are always shipped from factory at Speed tab 5, except for -4824, which is set at Speed tab 3. For instance, (-)H1T-HM2417JA is always shipped at high static 2-ton airflow (Speed tab 5). To change to 1.5-ton airflow, move the blue wire to Speed tab 2 or 3 on the Constant Torque motor.

The low static Speed tab 2 (lower tonnage) and 4 (higher tonnage) are used for external static below 0.5" WC. The high static Speed tab 3 (lower tonnage) and 5 (higher tonnage) are used for external static exceeding 0.5" WC. Move the blue wire to the appropriate
 The airflow for continuous fan (Speed tab 1) is always set at 50% of the Speed tab 4.

• The above airflow table lists the airflow information for air handlers without heater and air handler with maximum heater allowed for each model.

• The following formula can be used to calculate the approximate airflow, if a smaller (N kW) than the maximum heater kit is installed.

Approximate Airflow = Airflow without heater - (Airflow without heater - Airflow with maximum heater) x (N kW/maximum heater)

## Electrical Data – Blower Motor Only – No Electric Heat

Model RH1P	Voltage	Application Phase*	Hertz	HP [W]	RPM	Speeds	Circuit Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
1817ST				1/5 [149]	1075	2	2.3	3.0	15
2417ST				1/5 [149]	1075	2	3.8	5.0	15
3017ST	115	1	60	1/4 [186]	1075	2	4.7	6.0	15
3617ST	115	1	00	1/3 [249]	1075	2	6.1	8.0	15
4221ST				1/2 [373]	1075	2	7.9	10.0	15
4821ST				3/4 [559]	1075	2	8.4	11.0	15
1817ST				1/5 [149]	1075	2	1.7	3.0	15
2417ST				1/5 [149]	1075	2	1.7	3.0	15
3017ST				1/4 [186]	1075	2	2.5	4.0	15
3617ST/3621ST	208/240	1&3	60	1/3 [249]	1075	2	2.5	4.0	15
4221ST				1/2 [373]	1075	2	5.2	7.0	15
4821ST/4824ST				3/4 [559]	1075	2	5.2	7.0	15
6024ST				3/4 [559]	1075	2	5.2	7.0	15
3617ST				1/3 [249]	1075	2	1.4	2.0	15
4221ST	480	3	60	1/2 [373]	1075	2	2.1	3.0	15
4821ST/4824ST	460	3	00	3/4 [559]	1075	2	2.2	3.0	15
6024ST				3/4 [559]	1075	2	2.2	3.0	15

\* Blower motors are all single phase motors.

### Blower Motor Data – RH1Q

Model (-)H1Q	Voltage	Phase	Hertz	HP	RPM	Speeds	Motor Amps	Minimum Circuit Ampacity	Maximum Overcurrent Protection
4221ST	208/240	1 & 3	60	3/4 [559]	300-1100	4	4.0	5	15

### Electrical Data – With Electric Heat

Installation of the U.L. Listed original equipment manufacturer provided heater kits listed in the following table is recommended for all auxiliary heating requirements.

Air Handler Model (-)H1P	Heater Model No.	Heater kW (208/240V) (480V)	PH/HZ	No. Elements kW Per	Type Supply Circuit Single Circuit Multiple Circuit	Heater Amps.	Motor Amps.	Minimum Circuit Ampacity	Maximum Overcurrent Protection
	RXBH-17?03J	2.25/3.0	1/60	1 - 3.0	SINGLE	10.8/12.5	1.7	16/18	20/20
-	RXBH-1724?03J	2.25/3.0	1/60	1 - 3.0	SINGLE	10.8/12.5	1.7	16/18	20/20
	RXBH-1724?05J	3.6/4.8	1/60	1 - 4.8	SINGLE	17.3/20.0	1.7	24/28	25/30
	RXBH-1724?07J	5.4/7.2	1/60	2 - 3.6	SINGLE	26.0/30.0	1.7	35/40	35/40
_	RXBH-1724?10J	7.2/9.6	1/60	2 - 4.8	SINGLE	34.6/40.0	1.7	46/53	50/60
1817S 2417S	RXBH-1724A13J	9.4/12.5	1/60	3 - 4.17	SINGLE	45.1/52.1	1.7	59/68	60/70
24170		3.1/4.2	1/60	1 - 4.17	MULTIPLE CKT 1	15.0/17.4	1.7	21/24	25/25
	RXBH-1724A13J	6.3/8.3	1/60	2 - 4.17	MULTIPLE CKT 2	30.1/34.7	0.0	38/44	40/45
	RXBH-1724A07C	5.4/7.2	3/60	3 - 2.4	SINGLE	15.0/17.3	1.7	21/24	25/25
	RXBH-1724A10C	7.2/9.6	3/60	3 - 3.2	SINGLE	20.0/23.1	1.7	28/31	30/35
	RXBH-1724A13C	9.4/12.5	3/60	3 - 4.17	SINGLE	26.1/30.1	1.7	35/40	35/40
3017S/3617S	RXBH-17?03J	2.25/3.0	1/60	1 - 3.0	SINGLE	10.8/12.5	2.5	17/19	20/20
	RXBH-1724?03J	2.25/3.0	1/60	1 - 3.0	SINGLE	10.8/12.5	2.5	17/19	20/20
	RXBH-1724?05J	3.6/4.8	1/60	1 - 4.8	SINGLE	17.3/20.0	2.5	25/29	25/30
	RXBH-1724?07J	5.4/7.2	1/60	2 - 3.6	SINGLE	26.0/30.0	2.5	36/41	40/45
	RXBH-1724?10J	7.2/9.6	1/60	2 - 4.8	SINGLE	34.6/40.0	2.5	47/54	50/60
	RXBH-1724A13J	9.4/12.5	1/60	3 - 4.17	SINGLE	45.1/52.1	2.5	60/69	60/70
	RXBH-1724A13J	3.1/4.2	1/60	1 - 4.17	MULTIPLE CKT 1	15.0/17.4	2.5	22/25	25/25
		6.3/8.3	1/60	2 - 4.17	MULTIPLE CKT 2	30.1/34.7	0.0	38/44	40/45
	RXBH-1724A15J	10.8/14.4	1/60	3 - 4.8	SINGLE	51.9/60.0	2.5	68/79	70/80
3017S 3617S		3.6/4.8	1/60	1 - 4.8	MULTIPLE CKT 1	17.3/20.0	2.5	25/29	25/30
36175 3621S	RXBH-1724A15J	7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
	RXBH-1724A18J	12.8/17.0	1/60	3 - 5.68	SINGLE	61.6/70.8	2.5	81/92	90/100
		4.3/5.7	1/60	1 - 5.68	MULTIPLE CKT 1	20.5/23.6	2.5	29/33	30/35
	RXBH-1724A18J	8.5/11.3	1/60	2 - 5.68	MULTIPLE CKT 2	41.1/47.2	0.0	52/59	60/60
	RXBH-1724A07C	5.4/7.2	3/60	3 - 2.4	SINGLE	15.0/17.3	2.5	22/25	25/25
	RXBH-1724A10C	7.2/9.6	3/60	3 - 3.2	SINGLE	20.0/23.1	2.5	29/32	30/35
	RXBH-1724A13C	9.4/12.5	3/60	3 - 4.17	SINGLE	26.1/30.1	2.5	36/41	40/45
	RXBH-1724A15C	10.8/14.4	3/60	3 - 4.8	SINGLE	30.0/34.6	2.5	41/47	45/50
	RXBH-1724A18C	12.8/17.0	3/60	3 - 5.68	SINGLE	35.5/41.0	2.5	48/55	50/60
	RXBH-17A07D	7.2	3/60	3 - 2.4	SINGLE	8.7	1.4	13	15
3017S	RXBH-17A10D	9.6	3/60	3 - 3.2	SINGLE	11.6	1.4	17	20
3617S	RXBH-17A15D	14.4	3/60	3 - 4.8	SINGLE	17.3	1.4	24	25
	RXBH-17A18D	17.0	3/60	3 - 5.68	SINGLE	20.4	1.4	28	30
	RXBH-24A07D	7.2	3/60	3 - 2.4	SINGLE	8.7	1.4	13	15
00040	RXBH-24A10D	9.6	3/60	3 - 3.2	SINGLE	11.6	1.4	17	20
3621S	RXBH-24A15D	14.4	3/60	3 - 4.8	SINGLE	17.3	1.4	24	25
	RXBH-24A18D	17.0	3/60	6 - 2.84	SINGLE	20.4	1.4	28	30

• ? Heater Kit Connection Type A = Breaker B = Terminal Block C = Pullout Disconnect

① D Voltage = 480 Volts.

\*Values only. No single point kit available.

NOTES:

Electric heater BTUH - (heater watts + motor watts) x 3.414 (see airflow table for motor watts.)
 Supply circuit protective devices may be fuses 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 or circuit 1 of multiple circuits.

· Heater loads are balanced on 3 phase models with 3 or 6 heaters only.

• No electrical heating elements are permitted to be used with A voltage (115V) air handler.

• J voltage (208/240V) single phase air handler is designed to be used with single or three phase 208/240V volt electric heaters. In the case of connecting 3 phase power to air handler terminal block without the heater, bring only two leads to terminal block, cap, insulate and fully secure the third lead. • Do not use 480V electrical heaters on 208/240V air handlers.

• If the kit is listed under both single and multiple circuits, the kit is shipped from factory as multiple

circuits. For single phase application, Jumper bar kit RXBJ-A21 and RXBJ-A31 can be used to convert multiple circuits to a single supply circuit. Refer to Accessory Section for details.

### Electrical Data - With Electric Heat (Cont.)

Installation of the U.L. Listed original equipment manufacturer provided heater kits listed in the following table is recommended for all auxiliary heating requirements.

Air Handler Model (-)H1P	Heater Model No.	Heater kW (208/240V) (480V)	PH/HZ	No. Elements kW Per	Type Supply Circuit Single Circuit Multiple Circuit	Heater Amps.	Motor Amps.	Minimum Circuit Ampacity	Maximum Overcurrent Protection
	RXBH-1724?05J	3.6/4.8	1/60	1 - 4.8	SINGLE	17.3/20.0	5.2	29/32	30/35
	RXBH-1724?07J	5.4/7.2	1/60	2 - 3.6	SINGLE	26.0/30.0	5.2	39/44	40/45
	RXBH-1724?10J	7.2/9.6	1/60	2 - 4.8	SINGLE	34.6/40.0	5.2	50/57	50/60
	RXBH-1724A15J	10.8/14.4	1/60	3 - 4.8	SINGLE	51.9/60.0	5.2	72/82	80/90
	RXBH-1724A15J	3.6/4.8	1/60	1 - 4.8	MULTIPLE CKT 1	17.3/20.0	5.2	29/32	30/35
	NADH-1724A155	7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
	RXBH-1724A18J	12.8/17.0	1/60	3 - 5.68	SINGLE	61.6/70.8	5.2	84/95	90/100
	RXBH-1724A18J	4.3/5.7	1/60	1 - 5.68	MULTIPLE CKT 1	20.5/23.6	5.2	33/36	35/40
	KABH-1724A18J	8.5/11.3	1/60	2 - 5.68	MULTIPLE CKT 2	41.1/47.2	0.0	52/59	60/60
	RXBH-24A20J	14.4/19.2	1/60	4 - 4.8	SINGLE	69.2/80.0	5.2	93/107	100/110
		7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 1	34.6/40.0	5.2	50/57	50/60
	RXBH-24A20J	7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
	RXBH-24A25J	18.0/24.0	1/60	6 - 4.0	SINGLE	86.4/99.9	5.2	115/132	125/150
		6.0/8.0	1/60	2 - 4.0	MULTIPLE CKT 1	28.8/33.3	5.2	43/49	45/50
	RXBH-24A25J (4-TON ONLY)	6.0/8.0	1/60	2 - 4.0	MULTIPLE CKT 2	28.8/33.3	0.0	36/42	40/45
4221S		6.0/8.0	1/60	2 - 4.0	MULTIPLE CKT 3	28.8/33.3	0.0	36/42	40/45
42215 4821S	RXBH-1724A07C	5.4/7.2	3/60	3 - 2.4	SINGLE	15.0/17.3	5.2	26/29	30/30
4824S	RXBH-1724A10C	7.2/9.6	3/60	3 - 3.2	SINGLE	20.0/23.1	5.2	32/36	35/40
	RXBH-1724A15C	10.8/14.4	3/60	3 - 4.8	SINGLE	30.0/34.6	5.2	44/50	45/50
	RXBH-1724A18C	12.8/17.0	3/60	3 - 5.68	SINGLE	35.6/41.0	5.2	51/58	60/60
	RXBH-24A20C*	14.4/19.2	3/60	6 - 3.2	SINGLE	40.0/46.2	5.2	57/65	60/70
		7.2/9.6	3/60	3 - 3.2	MULTIPLE CKT 1	20.0/23.1	5.2	32/36	35/40
	RXBH-24A20C	7.2/9.6	3/60	3 - 3.2	MULTIPLE CKT 2	20.0/23.1	0.0	25/29	25/30
	RXBH-24A25C*	18.0/24.0	3/60	6 - 4.0	SINGLE	50.0/57.8	5.2	69/79	70/80
	RXBH-24A25C	9.0/12.0	3/60	3 - 4.0	MULTIPLE CKT 1	25.0/28.9	5.2	38/43	40/45
	(4-TON ONLY)	9.0/12.0	3/60	3 - 4.0	MULTIPLE CKT 2	25.0/28.9	0.0	32/37	35/40
	RXBH-24A07D	7.2	3/60	3 - 2.4	SINGLE	8.7	2.2	14	15
	RXBH-24A10D	9.6	3/60	3 - 3.2	SINGLE	11.6	2.2	18	20
	RXBH-24A15D	14.4	3/60	3 - 4.8	SINGLE	17.3	2.2	25	25
	RXBH-24A18D	17.0	3/60	6 - 2.84	SINGLE	20.4	2.2	29	30
	RXBH-24A20D	19.2	3/60	6 - 3.2	SINGLE	23.2	2.2	32	35
	RXBH-24A25D (4-TON ONLY)	24.0	3/60	6 - 4.0	SINGLE	28.8	2.2	39	40

• ? Heater Kit Connection Type A = Breaker B = Terminal Block C = Pullout Disconnect D Voltage = 480 Volts.

\*Values only. No single point kit available.

NOTES:

• Electric heater BTUH - (heater watts + motor watts) x 3.414 (see airflow table for motor watts.)

• Supply circuit protective devices may be fuses 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 or circuit 1 of multiple circuits.

• Heater loads are balanced on 3 phase models with 3 or 6 heaters only.

• No electrical heating elements are permitted to be used with A voltage (115V) air handler.

J voltage (208/240V) single phase air handler is designed to be used with single or three phase 208/240V volt electric heaters. In the case of connecting 3 phase power to air handler terminal block without the heater, bring only two leads to terminal block, cap, insulate and fully secure the third lead.
 Do not use 480V electrical heaters on 208/240V air handlers.

 If the kit is listed under both single and multiple circuits, the kit is shipped from factory as multiple circuits. For single phase application, Jumper bar kit RXBJ-A21 and RXBJ-A31 can be used to convert multiple circuits to a single supply circuit. Refer to Accessory Section for details.

### Electrical Data – With Electric Heat (Cont.)

Installation of the U.L. Listed original equipment manufacturer provided heater kits listed in the following table is recommended for all auxiliary heating requirements.

Air Handler Model (-)H1P	Heater Model No.	Heater kW (208/240V) (480V)	PH/HZ	No. Elements kW Per	Type Supply Circuit Single Circuit Multiple Circuit	Heater Amps.	Motor Amps.	Minimum Circuit Ampacity	Maximum Overcurrent Protection
	RXBH-1724?05J	3.6/4.8	1/60	1 - 4.8	SINGLE	17.3/20.0	5.2	29/32	30/35
	RXBH-1724?07J	5.4/7.2	1/60	2 - 3.6	SINGLE	26.0/30.0	5.2	39/44	40/45
	RXBH-1724?10J	7.2/9.6	1/60	2 - 4.8	SINGLE	34.6/40.0	5.2	50/57	50/60
	RXBH-1724A15J	10.8/14.4	1/60	3 - 4.8	SINGLE	51.9/60.0	5.2	72/82	80/90
	RXBH-1724A15J	3.6/4.8	1/60	1 - 4.8	MULTIPLE CKT 1	17.3/20.0	5.2	29/32	30/35
	NADH-1/24A10J	7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
	RXBH-1724A18J	12.8/17.0	1/60	3 - 5.68	SINGLE	61.6/70.8	5.2	84/95	90/100
		4.3/5.7	1/60	1 - 5.68	MULTIPLE CKT 1	20.5/23.6	5.2	33/36	35/40
	RXBH-1724A18J	8.5/11.3	1/60	2 - 5.68	MULTIPLE CKT 2	41.1/47.2	0.0	52/59	60/60
6024S	RXBH-24A20J	14.4/19.2	1/60	4 - 4.8	SINGLE	69.2/80.0	5.2	93/107	100/110
00243		7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 1	34.6/40.0	5.2	50/57	50/60
	RXBH-24A20J	7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
	RXBH-24A25J	18.0/24.0	1/60	6 - 4.0	SINGLE	86.4/99.9	5.2	115/132	125/150
		6.0/8.0	1/60	2 - 4.0	MULTIPLE CKT 1	28.8/33.3	5.2	43/49	45/50
	RXBH-24A25J	6.0/8.0	1/60	2 - 4.0	MULTIPLE CKT 2	28.8/33.3	0.0	36/42	40/45
		6.0/8.0	1/60	2 - 4.0	MULTIPLE CKT 3	28.8/33.3	0.0	36/42	40/45
	RXBH-24A30J	21.6/28.8	1/60	6 - 4.8	SINGLE	103.8/120.0	5.2	137/157	150/175
		7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 1	34.6/40.0	5.2	50/57	50/60
	RXBH-24A30J	7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
		7.2/9.6	1/60	2 - 4.8	MULTIPLE CKT 3	34.6/40.0	0.0	44/50	45/50

Air Handler Model (-)H1Q	Heater Model No.	Heater kW (208/240V) (480V)	PH/HZ	No. Elements kW Per	Type Supply Circuit Single Circuit Multiple Circuit	Heater Amps.	Motor Amps.	Minimum Circuit Ampacity	Maximum Overcurrent Protection
	RXBH-1724?05J	3.6/4.8	1/60	1-4.8	SINGLE	17.3/20.0	4.0	27/30	30/30
	RXBH-1724?07J	5.4/7.2	1/60	2-3.6	SINGLE	26.0/30.0	4.0	38/43	40/45
	RXBH-1724?10J	7.2/9.6	1/60	2-4.8	SINGLE	34.6/40.0	4.0	49/55	50/60
	RXBH-1724A15J	10.8/14.4	1/60	3-4.8	SINGLE	51.9/60.0	4.0	70/80	70/80
		3.6/4.8	1/60	1-4.8	MULTIPLE CKT 1	17.3/20.0	4.0	27/30	30/30
	RXBH-1724A15J	7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
	RXBH-1724A18J	12.8/17.0	1/60	3-5.68	SINGLE	61.6/70.8	4.0	82/94	90/100
42215	RXBJ-1724A18J	4.3/5.7	1/60	1-5.68	MULTIPLE CKT 1	20.5/23.6	4.0	31/35	30/35
42215	NADJ-1724A10J	8.5/11.3	1/60	2-5.68	MULTIPLE CKT 2	41.1/47.2	0.0	52/59	60/60
	RXBH-24A20J	14.4/19.2	1/60	4-4.8	SINGLE	69.2/80	4.0	92/105	100/110
		7.2/9.6	1/60	2-4.8	MULTIPLE CKT 1	34.6/40.0	4.0	49/55	50/60
	RXBH-24A20J	7.2/9.6	1/60	2-4.8	MULTIPLE CKT 2	34.6/40.0	0.0	44/50	45/50
[	RXBH-24A25J	18.0/24.0	1/60	6-4.0	SINGLE	86.4/99.9	4.0	113/130	125/150
[		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 1	28.8/33.3	4.0	41/47	45/50
	RXBH-24A25J	6.0/8.0	1/60	2-4.0	MULTIPLE CKT 2	28.8/33.3	0.0	36/42	40/45
		6.0/8.0	1/60	2-4.0	MULTIPLE CKT 3	28.8/33.3	0.0	36/42	40/45

• ? Heater Kit Connection Type A = Breaker B = Terminal Block C = Pullout Disconnect D Voltage = 480 Volts.

\*Values only. No single point kit available.

NOTES:

• Electric heater BTUH - (heater watts + motor watts) x 3.414 (see airflow table for motor watts.)

Supply circuit protective devices may be fuses 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 or circuit 1 of multiple circuits.

• Heater loads are balanced on 3 phase models with 3 or 6 heaters only.

• No electrical heating elements are permitted to be used with A voltage (115V) air handler.

J voltage (208/240V) single phase air handler is designed to be used with single or three phase 208/240V volt electric heaters. In the case of connecting 3 phase power to air handler terminal block without the heater, bring only two leads to terminal block, cap, insulate and fully secure the third lead.
 Do not use 480V electrical heaters on 208/240V air handlers.

 If the kit is listed under both single and multiple circuits, the kit is shipped from factory as multiple circuits. For single phase application, Jumper bar kit RXBJ-A21 and RXBJ-A31 can be used to convert multiple circuits to a single supply circuit. Refer to Accessory Section for details.

# **Electrical Wiring**

#### **Power Wiring**

- Field wiring must comply with the National Electrical Code (C.E.C. in Canada) and any applicable local ordinance.
- Supply wiring must be 75°C minimum copper conductors only.
- See electrical data for product Ampacity rating and Circuit Protector requirement.

### Accessories

#### • Combustible Floor Base RXHB-

Model Cabinet Size	Combustible Floor Base Model Number
17	RXHB-17
21	RXHB-21
24	RXHB-24

- 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.
- 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.
- Note: No jumper bar kit is available to convert three phase multiple two circuit units to a single supply circuit.

#### • Auxiliary Horizontal Overflow Pan Accessory RXBM-

Nominal Cooling Capacity-Tons	Auxiliary Horizontal Overflow Pan Accessory Model Number
11/2 - 3	RXBM-AC48
31/2 - 5	RXBM-AC61

#### • External Filter Rack RXHF-B17, B21, B24

Model Cabinet Size	Filter Size In. [mm]	Part Number*	Α	В
17	16 x 20 [406 x 508]	RXHF-B17	16.90	20.77
21	20 x 20 [508 x 508]	RXHF-B21	20.40	20.77
24	25 x 20 [635 x 508]	RXHF-B24	25.00	21.04

\*Accommodates 1" filter

#### Grounding

- This product must be sufficiently grounded in accordance with National Electrical Code (C.E.C. in Canada) and any applicable local ordinance.
- A grounding lug is provided.

#### • Auxiliary Electric Heater Kits RXBH-

Heater Kits include circuit breakers which meet UL and cUL requirements for service disconnect. See the Electric Heat Electrical Data in this specification sheet for specific Heater Kit Model numbers.

#### • Horizontal Adapter Kit RXHH-

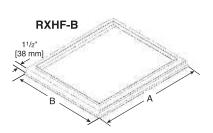
This horizontal adapter kit is used to convert Upflow/Downflow only models to horizontal flow. See the following table to order proper horizontal adapter kit.

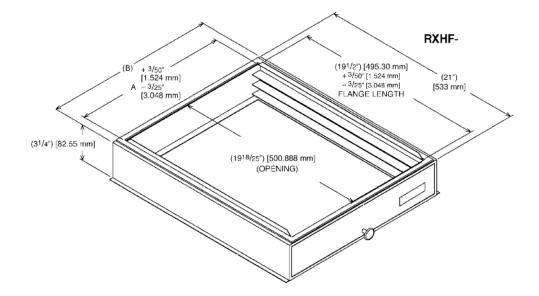
Coil Model	Horizontal Adapter Kit Model Number (Single Qty.)	Horizontal Adapter Kit Model Number (10-Pack Qty.)
2414	RXHH-A01	RXHH-A01 x 10
2417	RXHH-A02	RXHH-A02 x 10
3617/3621	RXHH-A03	RXHH-A03 x 10
3821/4821/4824	RXHH-A04	RXHH-A04 x 10
6024	RXHH-A05	RXHH-A05 x 10

#### • External Filter Base RXHF-

Model Cabinet Size	Filter Size In. [mm]	Part Number*	Α	В
17	16 x 20 [406 x 508]	RXHF-17	15.70	17.5
21	20 x 20 [508 x 508]	RXHF-21	19.20	21.0
24	25 x 20 [635 x 508]	RXHF-24	22.70	25.5

\*Accommodates 1" or 2" filter





## **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.

Conditional Parts (Registration Required) ......Ten (10) Years

\*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.



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

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