SG-RAH-09
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Advanced Distributor Products®

Specification Guide

R Series

Multi-Position Air Handlers

Electric or No Heat, with available Variable-Speed High Efficiency ECM Motor

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Microban® antimicrobial product protection

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Product Features

Cabinet & General Features

- Two independent service panels make for easy access to coil.
- Factory installed brackets to hold coil assembly in place when unit is installed in the horizontal position.
- Glued foil faced insulation and securing rods.
- Only four (4) screws to remove blower panel.
- ETL certified 2% or less cabinet air leakage.
- Cabinet constructed of heavy gauge painted steel.
- Filter rack built into every air handler.
- Access panels with wrap around flange design improves cabinet rigidity and air tightness.
- Air handlers are top handling (basiloid) packaged with bar coding and full description on label.
- Upflow, right and left horizontal airflow configurations available as well as downflow with a field installed kit.
- Downflow kit available as an accessory for field installation, easy to install kit consists of 2 brackets plus instructions.
- Approved for installation in manufactured housing and mobile homes.

Evaporator Coil Features

- HydroTecTM drain pans with Microban anti-microbial additive resists growth of mold and mildew.
- Drain pans are made of high temperature (450°F) UV resistant engineering polymer.
- Dual drain connections (3/4" FPT) on left and right of front panel.
- R-22 and R-410A compatible.
- Rifled copper tubing makes for greater heat transfer.
- Lanced fin design.
- Coils are air pressure tested at 500 PSI, pressure tested with Helium, sealed and then charged with dry air.

Electrical Features

- Electrical connections can be made on top, right or left side of cabinet.
- Electric heat available factory installed or as field installed kits.
- Fan time delay available factory installed or as a field installed kit.
- Dynamically balanced blowers for quiet vibration-free operation.
- Circuit breaker standard on 15 kW and higher heat kits and available factory or field installed for 5-10 kW heat kits.
- Single point supply voltage breaker kits available as an accessory for field installation.

Variable-Speed High Efficiency ECM Motor Features

- Maintains a selected CFM over a wide range of static conditions.
- Soft start feature slowly ramps up airflow on start up.
- Dehumidification setting (when activated) runs cooling CFM at 90%.
- Constant air circulation setting runs cooling CFM at 50%. This quiet continuous airflow improves IAQ and eliminates stratification at a reduced energy cost.
- Control board LED Lights display operating mode and indicates when dehumidification setting has been activated.

Physical Data

		Unit Size						
		18	24	30	36	42	48	60
Available Voltage		208/240 V, 60 Hz, 1 ph. or 220 V, 50 Hz, 1 ph.						
Maximum Elec. Heat (Kw)		10	10	15	15	15	20	20
Transformer Size and Type		40VA, Class 2						
Blower Wheel (dia." x width")		10 x 6	10 x 6	11 x 8	11 x 8	11 x 8	11.5 x 9	11.5 x 9
Nominal CFM		600	800	1000	1200	1400	1600	1850
Blower Data:	**Motor H. P.**	1/4	1/4	1/4	1/3	1/2	1/2	1/2
3-Speed Motor	**F. L. A. @ 240 V**	1.4	1.4	1.5	1.7	2.5	3.9	3.9
Blower Data:	**Motor H. P.**	**	1/3	***	1/2	1/2	3/4	3/4
Variable-Speed High Eff. ECM Motor *****	**F. L. A. @ 240 V**	**	2	***	2.5	2.8	3	3.8
Air Filter Size (in)		16 x 20	16 x 20	18 x 20	18 x 20	18 x 25	18 x 25	18 x 25
Refrigerant Conn. (IDS) Suction (in)		3/4	3/4	7/8	7/8	7/8	7/8	7/8
Refrigerant Conn. (IDS) Liquid (in)		3/8	3/8	3/8	3/8	3/8	3/8	3/8
R-22 Piston Size		.053	.059	.067	.073	.080	.084	.093
R-410A Piston Size		.049	.053	.059	.067	.073	.076	.093
Approx. Weight (lbs, base unit w/o heat)		129	131	138	148	172	177	190

* Variable-speed high efficiency ECM motor option not available with 220 V, 50 Hz.

** For 18 MBTUH cooling capacity with variable-speed motor option use 24 size model and adjust blower speed setting lower.

*** For 30 MBTUH cooling capacity with variable-speed motor option use 36 size model and adjust blower speed setting lower.

Product Nomenclature

R C M E34 2 24 S 00 2

Series
- **R** = ADP grey painted cabinet

Blower Motor
- **C** = 3-speed blower
- **V** = Variable-speed high efficiency ECM motor *

Airflow Configuration
- **V** = Vertical only
- **M** = Multi-position (upflow, left or right horizontal)

Slab Number

Metering Device
- **1** = Piston (R-410A)
- **2** = Piston (R-22)
- **3** = Bleed TXV Valve (R-22)
- **4** = Non-bleed A/C TXV (R-22)
- **5** = Non-bleed HP-A/C TXV (R-22)
- **6** = Non-bleed A/C TXV (R-410A)
- **9** = Non-bleed HP-A/C TXV (R-410A)

Unit Size (Nominal MBTUH)
18**, 24, 30***, 36, 42, 48, 60

Voltage
- **1** = 208/240 V, 60 Hz, 1 ph.
- **2** = 208/240 V, 60 Hz, 1 ph. w/ time delay
- **5** = 220 V, 50 Hz, 1 ph.*
- **6** = 220 V, 50 Hz, 1 ph. w/ time delay *

Electric Heat

Note: Maximum 10 kW per electrical supply circuit

- **00** = No heat
- **05** = 5 kW (sizes 18 - 60)
- **07** = 7.5 kW (sizes 18 - 60)
- **10** = 10 kW (sizes 18 - 60)
- **15** = 15 kW (sizes 30 - 60)
- **20** = 20 kW (48 - 60)

Line Voltage Connections

	Amount of Heat (kW)					
	0	5	7.5	10	15	20
S = Stripped Wire	#	#				
T = Terminal Block		O	#	#		
B = Circuit Breaker		O	O	O	#	#

= Standard O = Optional

* Variable-speed high efficiency ECM motor option not available with 220 V, 50 Hz.
** For 18 MBTUH cooling capacity with variable-speed motor option use 24 size model and adjust blower speed setting lower.
*** For 30 MBTUH cooling capacity with variable-speed motor option use 36 size model and adjust blower speed setting lower.

Blower Performance: 3-Speed Motor

All data is given while air handler is operating with a wet DX coil and air filter installed.
Speeds marked **bold with asterisk*** are the factory speed settings for both heating and cooling.
Heating speeds should not be reduced below factory settings.
Different speeds can be set for cooling mode. See installation instructions for changing cooling speeds.

Unit Size (MBTUH)	Fan Speed Setting	Airflow (CFM) vs. External Static Pressure (Inches W.C.)				
		0.10	**0.20**	**0.30**	**0.40**	**0.50**
18	**Low* (Red)**	722	702	656	609	517
	Med (Blue)	994	926	838	707	626
	High (Black)	1036	958	873	779	663
24	Low (Red)	722	702	656	609	517
	Med* (Blue)	994	926	838	707	626
	High (Black)	1036	958	873	779	663
30	Low (Red)	929	916	890	842	737
	Med* (Blue)	1059	1043	1014	948	842
	High (Black)	1290	1271	1213	1153	1043
36	**Low* (Red)**	1135	1120	1112	1079	995
	Med (Blue)	1354	1345	1317	1260	1090
	High (Black)	1494	1469	1417	1336	1250
42	Low (Red)	1603	1542	1474	1407	1301
	Med* (Blue)	1707	1635	1561	1482	1373
	High (Black)	1811	1749	1665	1545	1416
48	Low (Red)	1743	1700	1641	1565	1451
	Med* (Blue)	2158	1943	1826	1700	1581
	High (Black)	2181	2112	1918	1771	1642
60	Low (Red)	1734	1712	1688	1644	1503
	Med* (Blue)	2080	2038	1971	1855	1717
	High (Black)	2276	2184	2092	1958	1842

Blower Performance: Variable-Speed High Eff. ECM Motor

Unit Size (MBTUH)	Operating Mode	Thermostat Terminals X = Energized Terminal						Control Board Taps Cool				Control Board Taps Heat			
		HUM	EM	W1	O	Y2/Y1	G	A CFM	B CFM	C CFM	D CFM	A CFM	B CFM	C CFM	D CFM
24	Cooling	**			X	X		800	700	600	400				
	Heating					X						800	700	600*	400*
	Continuous Blower						X	400	350	350	350				
	Aux. Heat			X		X		***	***	***	***	800	800	600*	600*
	Emer. Heat		X	X				***	***	***	***	800	800	600*	600*
36	Cooling	**			X	X		1200	1000	800	600				
	Heating					X						1200	1000	800*	600*
	Continuous Blower						X	600	500	400	350				
	Aux. Heat			X		X		***	***	***	***	1200	1200	800*	800*
	Emer. Heat		X	X				***	***	***	***	1200	1200	800*	800*
42	Cooling	**			X	X		1400	1200	1000	800				
	Heating					X						1400	1200	1000*	800*
	Continuous Blower						X	700	600	500	400				
	Aux. Heat			X		X		***	***	***	***	1400	1400	1000*	1000*
	Emer. Heat		X	X				***	***	***	***	1400	1400	1000*	1000*
48	Cooling	**			X	X		1600	1400	1200	1000				
	Heating					X						1600	1400	1200	1000
	Continuous Blower						X	800	700	600	500				
	Aux. Heat			X		X		***	***	***	***	1600	1600	1200	1200
	Emer. Heat		X	X				***	***	***	***	1600	1600	1200	1200
60	Cooling	**			X	X		1800	1600	1400	1200				
	Heating					X						1800	1600	1400	1200
	Continuous Blower						X	900	800	700	600				
	Aux. Heat			X		X		***	***	***	***	1800	1600	1400	1200
	Emer. Heat		X	X				***	***	***	***	1800	1600	1400	1200

NOTES:

* This CFM is not approved for use with the highest kW heater size.

** Humidistat will reduce cooling airflow by 10% in high humidity.

***Airflow is the greater of the COOL and HEAT values when both electric heat and heat pump are operating.

The heating and cooling taps are factory set on "A".

Adjust tap (+) will increase airflow by 10%, while tap (-) will decrease airflow by 12%.

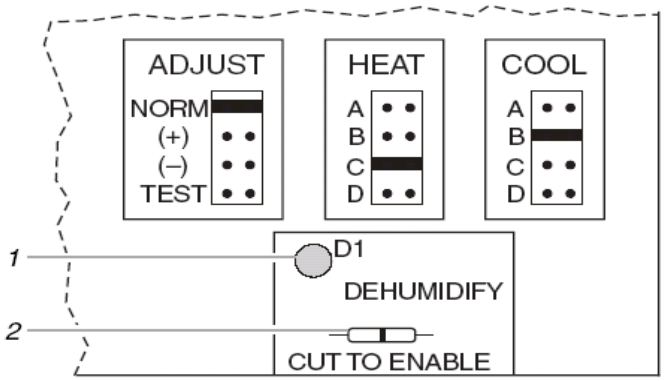
Adjust tap "test" will cause motor to run at 70% of full airflow. Use this for troubleshooting only.

At the start of a call for cooling there is a short run at 82% of airflow for 7.5 minutes.

At the end of a call for cooling there is a blower off delay of 1 minute.

First stage cooling air volume is 70% of COOL speed setting.

Control Board Taps and Dehumidify Resistor.



1. Dehumidify LED
2. Dehumidify resistor

Electrical Data (208/240 V, 60 Hz, 1 ph)

No Electric Heat

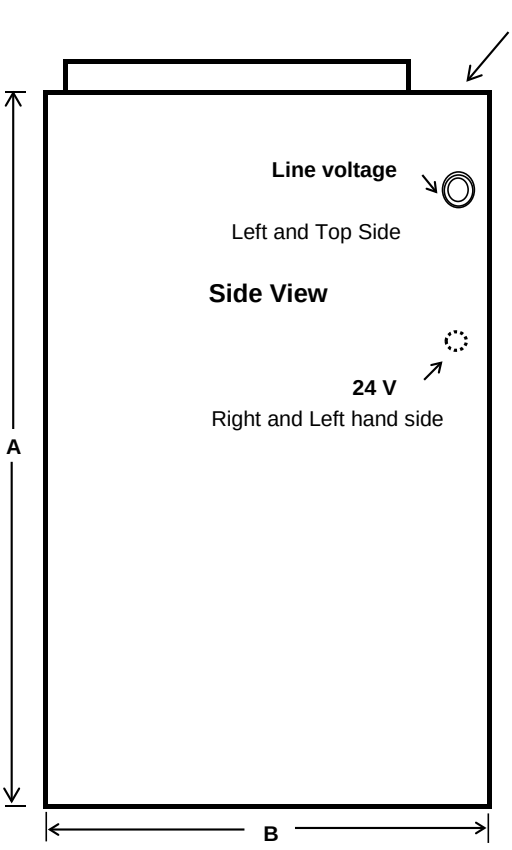
Unit Size	Electric Heating Capacity		Blower Amps				Minimum Circuit Ampacity				Circuit Breaker	
	kW	BTUH	3-Speed		Var-Speed ECM		3-Speed Blower		Var-Speed ECM Blower		(2,3) Amps Per Stage	
	(1) 240 V	(1) 240 V	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V	1	2
18, 24	0	0	1.5	1.4	2.0	2.0	1.8	1.8	2.5	2.5	15	-
30	0	0	1.6	1.5	NA	NA	2.0	1.9	NA	NA	15	-
36	0	0	1.8	1.7	2.5	2.5	2.2	2.1	3.1	3.1	15	-
42	0	0	2.6	2.5	3.0	3.0	3.3	3.1	3.8	3.8	15	-
48, 60	0	0	4.1	3.9	3.8	3.8	5.1	4.9	4.8	4.8	15	-

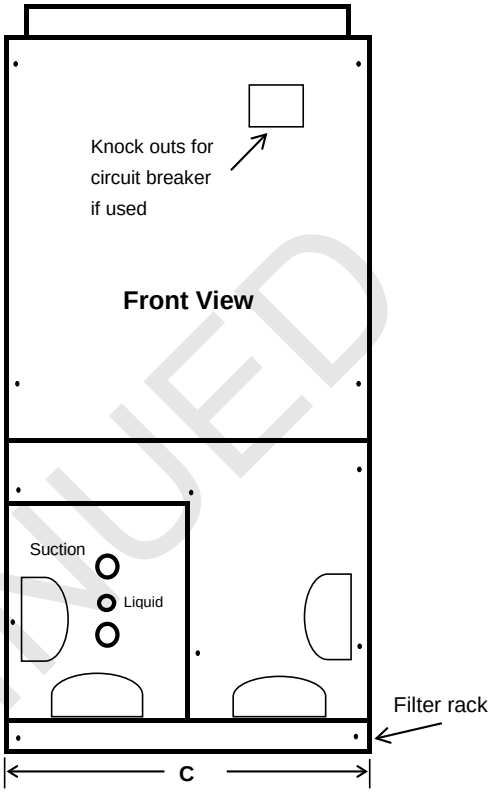
With Electric Heat

Unit Size	Electric Heating Capacity		Blower Amps				Minimum Circuit Ampacity				Circuit Breaker	
	kW	BTUH	3-Speed		Var-Speed ECM		3-Speed Blower		Var-Speed ECM Blower		(2,3) Amps Per Stage	
	(1) 240 V	(1) 240 V	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V	1	2
18, 24	5	17,065	1.5	1.4	2.0	2.0	24.4	27.8	25.1	28.5	30	-
	7.5	25,598	1.5	1.4	2.0	2.0	35.7	40.8	36.3	41.6	45	-
	10	34,130	1.5	1.4	2.0	2.0	47.0	53.8	47.6	54.6	60	-
30	5	17,065	1.6	1.5	NA	NA	24.5	27.9	NA	NA	30	-
	7.5	25,598	1.6	1.5	NA	NA	35.8	40.9	NA	NA	45	-
	10	34,130	1.6	1.5	NA	NA	47.1	54.0	NA	NA	60	-
	15	51,195	1.6	1.5	NA	NA	69.7	80.0	NA	NA	60	30
36	5	17,065	1.8	1.7	2.5	2.5	24.8	28.2	25.7	29.2	30	-
	7.5	25,598	1.8	1.7	2.5	2.5	36.1	41.2	37.0	42.2	45	-
	10	34,130	1.8	1.7	2.5	2.5	47.4	54.2	48.3	55.2	60	-
	15	51,195	1.8	1.7	2.5	2.5	69.9	80.3	70.8	81.3	60	30
42	5	17,065	2.6	2.5	3.0	3.0	25.9	29.2	26.3	29.8	35	-
	7.5	25,598	2.6	2.5	3.0	3.0	37.1	42.2	37.6	42.8	45	-
	10	34,130	2.6	2.5	3.0	3.0	48.4	55.2	48.9	55.8	60	-
	15	51,195	2.6	2.5	3.0	3.0	71.0	81.3	71.4	81.9	60	30
	20	68,260	2.6	2.5	3.0	3.0	93.6	107.3	94.0	107.9	60	60
48, 60	5	17,065	4.1	3.9	3.8	3.8	27.7	30.9	27.3	30.8	35	-
	7.5	25,598	4.1	3.9	3.8	3.8	39.0	43.9	38.6	43.8	45	-
	10	34,130	4.1	3.9	3.8	3.8	50.3	57.0	49.9	56.8	60	-
	15	51,195	4.1	3.9	3.8	3.8	72.8	83.0	72.4	82.9	60	30
	20	68,260	4.1	3.9	3.8	3.8	95.4	109.0	95.0	108.9	60	60

kW packages in bold indicates that these heat packages require and include circuit breakers.
Optional for others.
(1) For 208 Volt use .751 correction factor for Kw & BTUH.
(2) 15 and 20 Kw (2 stage models) require 2 supply circuits.
(3) Circuit #1 includes blower motor amps.
(4) Air Handler Size 18 & 30 MBTUH not available with Variable-Speed High Efficiency ECM Motor Option

Dimensions





				Supply Duct Opening		Return Duct Opening	
Unit Size	**A**	**B**	**C**	**Depth**	**Width**	**Depth**	**Width**
18, 24	46 3/4"	22"	18 1/2"	17"	16 1/2"	20 1/2"	16"
30, 36	51"	22"	21 1/4"	17"	19 1/4"	20 1/2"	18 3/4"
42, 48	54"	26"	21 1/4"	21"	19 1/4"	24 1/2"	18 3/4"
60	60"	26"	21 1/4"	21"	19 1/4"	24 1/2"	18 3/4"

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