



**Ruud Achiever® Series  
Ducted Split Systems  
Air Conditioners  
R410A-60 Hz  
1.5-5 Tons**



**VA14 Series Condensing Unit  
R410A - 60 Hz  
1.5-5 Ton**



**VH1T- Series Ducted Air Handler  
Constant Torque Motor (ECM)  
R410A - 60 Hz  
1.5-5 Ton**

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### VA14 Standard Feature Table

VA14 STANDARD FEATURES							
Feature	18	24	30	36	42	48	60
R-410a Refrigerant	√	√	√	√	√	√	√
Scroll Compressor	√	√	√	√	√	√	√
Field Installed Filter Drier	√	√	√	√	√	√	√
Front Seating ServiceValves	√	√	√	√	√	√	√
Internal Pressure Relief Valve	√	√	√	√	√	√	√
Internal Thermal Overload	√	√	√	√	√	√	√
Long Line capability	√	√	√	√	√	√	√
3-4-5 Expanded Valve Space	√	√	√	√	√	√	√
Composite Basepan	√	√	√	√	√	√	√
2 Screw Control Box Access	√	√	√	√	√	√	√
15" Access to Internal Components	√	√	√	√	√	√	√
Quick release louver panel design	√	√	√	√	√	√	√
No fasteners to remove along bottom	√	√	√	√	√	√	√
Optimized Venturi Airflow	√	√	√	√	√	√	√
Single row condenser coil	√	√	√	√	√	√	√
Powder coated paint	√	√	√	√	√	√	√
Rust resistant screws	√	√	√	√	√	√	√
External gauge ports	√	√	√	√	√	√	√
Service trays	√	√	√	√	√	√	√
High Pressure Switch	√	√	√	√	√	√	√
Low Pressure Switch	√	√	√	√	√	√	√

√ = Standard

## VA14 Standard Features

- New composite base pan – dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Powder coat paint system – for a long lasting professional finish
- Scroll compressor – uses 70% fewer moving parts for higher efficiency and increased reliability
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Curved louver panels – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- PlusOne™ Expanded Valve Space – 3"-4"-5" service valve space – provides a minimum working area of 27-square inches for easier access
- PlusOne™ Triple Service Access – 15" wide, industry leading corner service access – makes repairs easier and faster. The two fastener removable corner allows optimal access to internal unit components. Individual louver panels come out once fastener is removed, for faster coil cleaning and easier cabinet reassembly
- Diagnostic service window with two-fastener opening – provides access to the high and low pressure.
- External gauge port access – allows easy connection of "low-loss" gauge ports
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- 35% fewer cabinet fasteners and fastener-free base – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- Fan motor harness with extra long wires allows unit top to be removed without disconnecting fan wire.
- High pressure switch and low pressure switch for unit and compressor protection.
- Liquid line filter drier shipped with unit fan field installation.

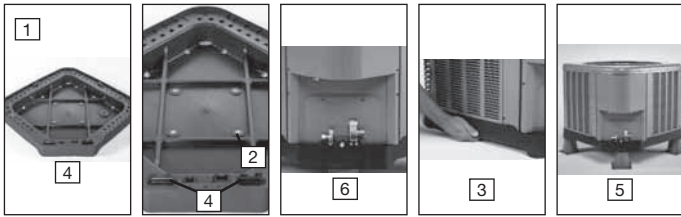
## VH1T Standard Features

- VH1T feature a Constant Torque motor (ECM) which provides enhanced EER performance with Ruud outdoor units .
- 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 IEC requirements for service disconnect.
- 1½ ton [5.3 kW] through 5 ton [17.6 kW] models are between 42½ to 55½ 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.

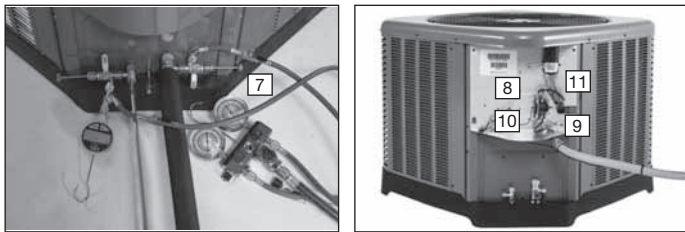
## Introduction to VA14 Condensing Unit / Features & Benefits

The VA14 is a new part of the Ruud air conditioner product line. This highly featured and reliable air conditioner is designed for years of reliable, efficient operation when matched with Ruud indoor aluminum evaporator coils and furnaces or air handler units with aluminum evaporators.

Our unique composite base (1) reduces sound emission, eliminates rattles, significantly reduces fasteners, eliminates corrosion and has integrated brass compressor attachment inserts (2). Furthermore it has incorporated into the design, water management features, means for hand placement (3) for unit maneuvering, screw trays (4) and inserts for lifting off unit pad. (5)

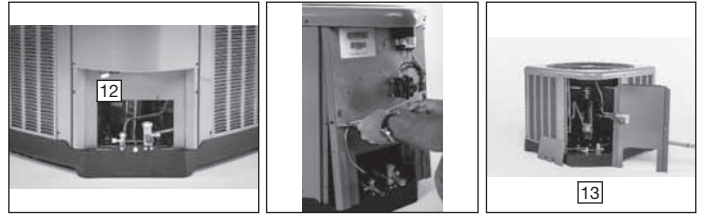


Service Valves (6) are rigidly mounted in the composite base with 3" between suction and discharge valves, 4" clearance below service valves and a minimum of 5" above the service valves, creating industry leading installation ease. The minimum 27 square-inches around the service valves allows ample room to remove service valve schrader prior to brazing, plenty of clearance for easy brazing of the suction and discharge lines to service valve outlets, easy access and hookup of low loss refrigerant gauges (7), and access to the service valve caps for opening. For applications with long-line lengths, the long-line instructions in the installation manual should be followed.

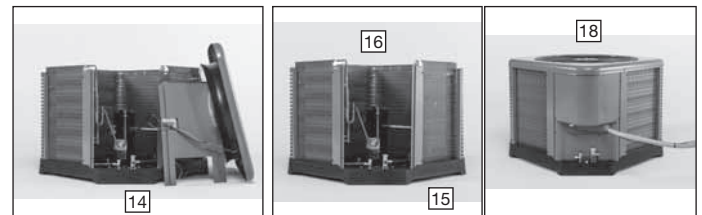


Controls are accessed from the corner of the unit by removing only two fasteners from the control access cover, revealing the industry's largest 15" wide and 14" tall control area (8). With all this room in the control area the high voltage electrical whip (9) can easily be inserted through the right size opening in the bottom of the control area. Routing it leads directly to contractor lugs for connection. The low voltage control wires (10) are easily connected to units low voltage wiring. If contactor or capacitor (11) needs to be replaced there is more than adequate space to make the repair.

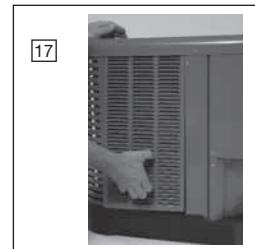
The service window (12) can be removed by removing two screws, to access the high and low side pressure switches. The entire corner can be removed providing ultimate access to install the high and low pressure switch. (13)



If in the rare event, greater access is needed to internal components, such as the compressor, the entire corner of the unit can be removed along with the top cover assembly to have unprecedented access to interior of the unit (14). Extra wire length is incorporated into each outdoor fan and compressor so top cover and control panel can be positioned next to the unit. With minimal effort the plug can be removed from the compressor and the outdoor fan wires can be removed from the capacitor to allow even more uncluttered access to the interior of the unit (15). Outdoor coil heights range from as short as 22" to 32", aiding access to the compressor. Disassembly to this degree and complete reassembly only takes a first time service technician less than 10 minutes. (18)



All units utilize strong formed louver panels which provide industry leading coil protection. Louver removal for coil cleaning is accomplished by removing one screw and lifting the panel out of the composite base pan. (17) All VA14 units utilize single row coils (16) making cleaning easy and complete, restoring the performance of the air conditioner back to out of the box performance levels year after year.

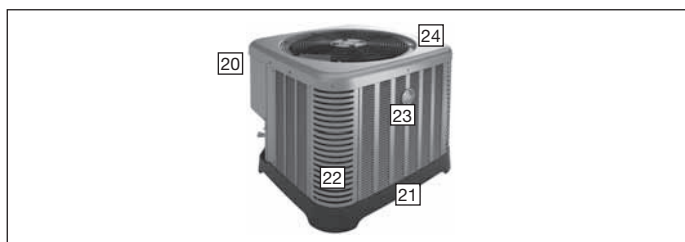


The outdoor fan motor has sleeve bearings and is inherently protected. The motor is totally enclosed for maximum protection from weather, dust and corrosion. Access to the outdoor fan is made by removing four fasteners from the fan grille. The outdoor fan can be removed from the fan grille by removing 4 fasteners in the rare case outdoor fan motor fails.

Each cabinet has optimized composite (19) fan orifice assuring efficient and quiet airflow.

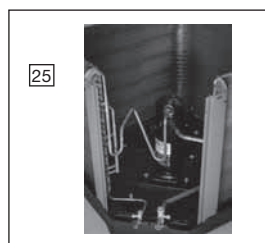


The entire cabinet has powder post paint (20) achieving 1008 hour salt spray rating, allowing the cabinet to retain its aesthetics throughout its life.



Scroll compressors with standard internal pressure relief and internal thermal overload are used on all capacities assuring longevity of high efficient and quiet operation for the life of the product.

Each unit is shipped with filter drier for field installation and will trap any moisture or dirt that could contaminate the refrigerant system.



All cabinets have industry leading structural strength due to the composite base pan (21), interlocking corner post (22), formed curved louver panels (23) and drawn top cover (24) making it the most durable cabinet on the market today.

Each VA14 capacity has undergone rigorous psychometric testing to assure performance ratings of capacity, EER per AHRI Standard 210/240 rating conditions and SASO 2663/2014. Also each unit is designed to UL safety standard and each unit is certified to UL 1995 and/or IEC 60335-1 safety standards.

Each unit has undergone specific strain and modal testing to assure tubing (25) is outside the units natural frequency and that the suction and discharge lines connected to the compressor withstand any starting, steady state operation or shut down forces imposed by the compressor.

All units have been sound tested in sound chamber to AHRI 270 rating conditions, and A-weighted Sound Power Level tables produced, assuring units have acceptable noise qualities (see page 10). Each unit has been ran in cooling operation at 95°F and 82°F and sound ratings for the VA14 range from as low as 74 dBA to 77 dBA.

All units have been ship tested to assure units meet stringent "over the road" shipping conditions.

As manufactured all units in the VA14 family have cooling capability down to 55 °F. Addition of low ambient control will allow the unit to operate down to 0°F. Factory testing is performed on each unit. All component parts meet well defined specification and continually go through receiving inspections. Each component installed on a unit is scanned, assuring correct component utilization for a given unit capacity and voltage. All condenser coils are leak tested with pressurization test to 550 psi and once installed and assembled, each units' complete refrigerant system is helium leak tested. All units are fully charged from the factory for up to 15 feet of piping. All units are factory run tested.

## Optional Accessories

(Refer to accessory chart for model #)  
**Compressor Crankcase Heater**

Protects against refrigerant migration that can occur during low ambient operation

### Compressor Sound Cover

- Reinforced vinyl compressor cover containing a 1½ inch thick batt of fiberglass insulation
- Open edges are sealed with a one-inch wide hook and loop fastening tape

### Compressor Hard Start Kit

- Single-phase units are equipped with a PSC compressor motor, this type of motor normally does not need a potential relay and start capacitor
- Kit may be required to increase the compressor starting torque, in conditions such as low voltage

### Low Ambient Kit

- Air conditioners operate satisfactorily in the cooling mode down to 55°F outdoor air temperature without any additional controls
- This Kit can be added in the field enabling unit to operate properly down to 0° in the cooling mode
- Crankcase heater and freezestat should be installed on compressors equipped with a low ambient kit

### 3"/6"/12"

- Gray high density polyethylene feet are available to raise unit off of mounting surface away from moisture

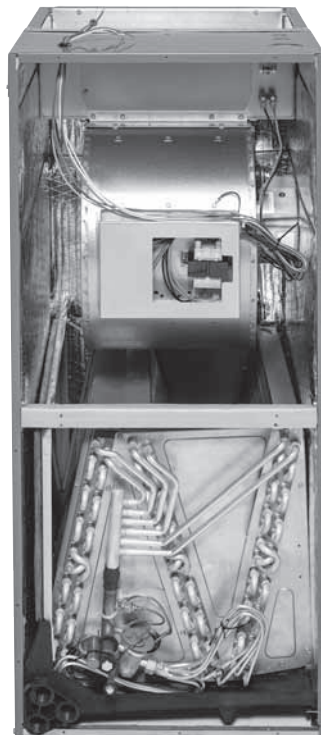
### Decorative Top

- Can be installed on fan grille

## VH1T Standard Features VH1T- Series

- The most compact unit design available, all standard heat air handler models only 42<sup>1</sup>/<sub>2</sub> to 55<sup>1</sup>/<sub>2</sub> inches [1079 to 1409 mm] high.
- Attractive pre-painted cabinet exterior.
- Rugged wall steel cabinet construction, designed for added strength and versatility.
- 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.
- 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.
- Coils are constructed of aluminum fins bonded to internally grooved aluminum tubing.
- VH1T feature a Constant Torque motor (ECM) which provides enhanced EER performance with Ruud outdoor units
- 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 IEC requirements for service disconnect.
- 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.
- 1 1/2 ton [5.3 kW] through 5 ton [17.6 kW] models are between 42 1/2 to 55 1/2 inches [1080 to 1410 mm] tall and 22 inches [559 mm] deep.
- All models meet or exceed 330 to 400 CFM [150 to 189 L/s] per ton at .3 inches [.7 kPa] of external static pressure.
- Enhanced airflow up to .7" external static pressure.

[ ] Designates Metric Conversions



# Nomenclature

## Air Conditioners

<b>V</b>	<b>A</b>	<b>14</b>	<b>24</b>	<b>A</b>	<b>J</b>	<b>1</b>	<b>N</b>	<b>B</b>	<b>030</b>
<b>Brand</b>	<b>Product Category</b>	<b>Family Type</b>	<b>Capacity BTU/HR</b>	<b>Major Series*</b>	<b>Voltage</b>	<b>Type</b>	<b>Controls</b>	<b>Minor Series**</b>	<b>Option Code</b>
Ruud	A - Air Conditioners		18 - 18,000 [5.28 kW] 24 - 24,000 [7.03 kW] 30 - 30,000 [8.79 kW] 36 - 36,000 [10.55 kW] 42 - 42,000 [12.31 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	A - 1st Design B - 2nd Design	J - 1ph, 230/60	1 - Single-stage	N - Non-Communicating	A - 1st Design B - 2nd Design	SASO

## Air Handlers

<b>V</b>	<b>H</b>	<b>1</b>	<b>I</b>	<b>36</b>	<b>17</b>	<b>S</b>	<b>I</b>	<b>A</b>	<b>J</b>	<b>A</b>	<b>000</b>	<b>030</b>	
<b>Brand</b>	<b>Product Category</b>	<b>Stages of Airflow</b>	<b>Motor Type</b>	<b>Capacity BTU/HR</b>	<b>Width</b>	<b>Coil Size</b>	<b>Metering Device</b>	<b>Major Series*</b>	<b>Controls</b>	<b>Voltage</b>	<b>Minor Series**</b>	<b>Factory Heat Cap</b>	<b>Option Code</b>
Ruud	H - Air Handler	1 - Single-Stage 2 - Two-Stage M - Modulating	V - Variable Speed T - Constant Torque P - PSC	24 - 24,000 [7.03 kW] 36 - 36,000 [10.55 kW] 48 - 48,000 [14.07 kW] 60 - 60,000 [17.58 kW]	14 - 14" 17 - 17.5" 21 - 21" 24 - 24.5"	S - Standard Eff.	T - TEV	A - 1st Design	C - Communicating N - Non-comm	J - 1ph, 208-240/60	A - 1st Design	00 - no factory heat with option code	SASO

[ I ] Designates Metric Conversions

## Available SKUs - Condensing Unit

Available Models	Description
VA1418AJ1NB030	1- 1/2 ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60
VA1424AJ1NB030	2- ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60
VA1430AJ1NB030	2- 1/2 ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60
VA1436AJ1NB030	3- ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60
VA1442AJ1NB030	3-1/2 ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60
VA1448AJ1NB030	4- ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60
VA1460AJ1NB030	5- ton Single-Stage Air Conditioner w/ High/Low Pressure-230/1/60

## Available SKUs - Air Handler

Available Models	Description
VH1T2417STANJA030	Ducted Air Handler w/ Constant Torque ECM Motor - 230/1/60
VH1T3617STANJA030	Ducted Air Handler w/ Constant Torque ECM Motor - 230/1/60
VH1T4821STANJA030	Ducted Air Handler w/ Constant Torque ECM Motor - 230/1/60
VH1T6024STANJA030	Ducted Air Handler w/ Constant Torque ECM Motor - 230/1/60

<b>VA14 Physical Data</b>							
PHYSICAL DATA							
Model No.	VA1418A	VA1424A	VA1430A	VA1436A	VA1442A	VA1448A	VA1460A
Nominal Tonnage	1.5	2.0	2.5	3.0	3.5	4.0	5.0
<b>Valve Connections</b>							
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Refrigerant (R410A) furnished oz. <sup>1</sup>	68	72	12.1	106	121	129	162
Compressor Type	Scroll						
<b>Outdoor Coil</b>							
Net face area – Outer Coil	9.1	11.1	12.1	14.8	17.3	18.9	21.5
Net face area – Inner Coil	–	–	–	–	–	–	–
Tube diameter – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Number of rows	1	1	1	1	1	1	1
Fins per inch	22	22	22	22	22	22	22
<b>Outdoor Fan</b>							
Diameter – in.	20	20	20	24	24	26	26
Number of blades	2	2	2	3	2	2	3
Motor hp	1/10	1/8	1/8	1/6	1/7	1/5	1/5
CFM	2225	2505	2605	3105	3670	4264	4139
RPM	1075	1075	1075	850	1075	820	850
watts	130	163	142	173	190	236	254
Shipping weight – lbs.	143	148	158	178	207	228	247
Operating weight – lbs.	122	141	151	171	200	221	240

<b>VA14 Electrical Data</b>							
Line Voltage Data (Volts-Phase-Hz)	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60	230-1-60
Maximum overcurrent protection (amps) <sup>2</sup>	20	25	25	30	40	45	50
Minimum circuit ampacity <sup>3</sup>	13	15	17	19	24	27	32
<b>Compressor</b>							
Rated load amps	9.7	11.2	12.8	14.1	17.9	19.9	23.7
Locked rotor amps	48	60.8	64	77	112	109	152.5
<b>Condenser Fan Motor</b>							
Full load amps	0.6	0.8	0.8	0.8	0.8	1.2	1.4
Locked rotor amps	1.1	1.5	1.4	1.5	1.5	2.3	2.8

<sup>1</sup>Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.

<sup>2</sup>HACR type circuit breaker or fuse.

<sup>3</sup>Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

## VA14 Application Guidelines

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01 - in wc.
2. Minimum outdoor operating air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 125°F (51.7°C).
4. For reliable operation, unit should be level in all horizontal planes.
5. Use only copper wire for electric connections at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
6. Do not apply capillary tube indoor coils to these units.
7. Factory - supplied filter drier must be installed.

## VA14 Accessories

Model No.	VA1418	VA1424	VA1430	VA1436	VA1442	VA1448	VA1460	
Compressor crankcase heater*	44-17402-44	44-17402-44	44-17402-44	44-17402-44	44-17402-45	44-17402-45	44-17402-45	
Low ambient control	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08	
Compressor sound cover	68-23427-26	68-23427-26	68-23427-26	68-23427-26	68-23427-25	68-23427-25	68-23427-25	
Compressor hard start kit	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	SK-A1	
Compressor time delay	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	RXMD-B01	
Liquid Line Solenoid (24 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid (120/240 VAC, 50/60 Hz)	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V
ClassiTop Cap w/Label	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	91-101123-21	

\*Crankcase Heater recommended with Low Ambient Kit.

## VA14 Weighted Sound Power Level (dBA)

A-WEIGHTED SOUND POWER LEVEL (dBA)								
Unit Size - Voltage, Series	Standard Rating (dBA)	TYPICAL OBJECTIVE AND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
VA1418A	76.0	51.4	59.6	65.2	65.9	64.3	58.5	53.7
VA1424A	75.2	49.4	60.4	64.3	64.2	63.4	58.9	53.8
VA1430A	74.0	48.8	57.5	63.5	64.0	61.9	56.1	51.0
VA1436A	76.0	52.2	61.3	65.4	65.3	62.4	57.3	53.1
VA1442A	73.0	51.5	54.7	63.5	63.3	59.4	54.9	48.4
VA1448A	75.8	52.3	59.1	66.7	65.7	62.4	59.3	55.9
VA1460A	75.0	53.4	59.1	65.9	66.9	62.8	58.7	54.3

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI)

## Thermostats

Optional



200-Series\*  
Programmable



300-Series\*  
Deluxe  
Programmable

400-Series\*  
Special Applications/  
Programmable

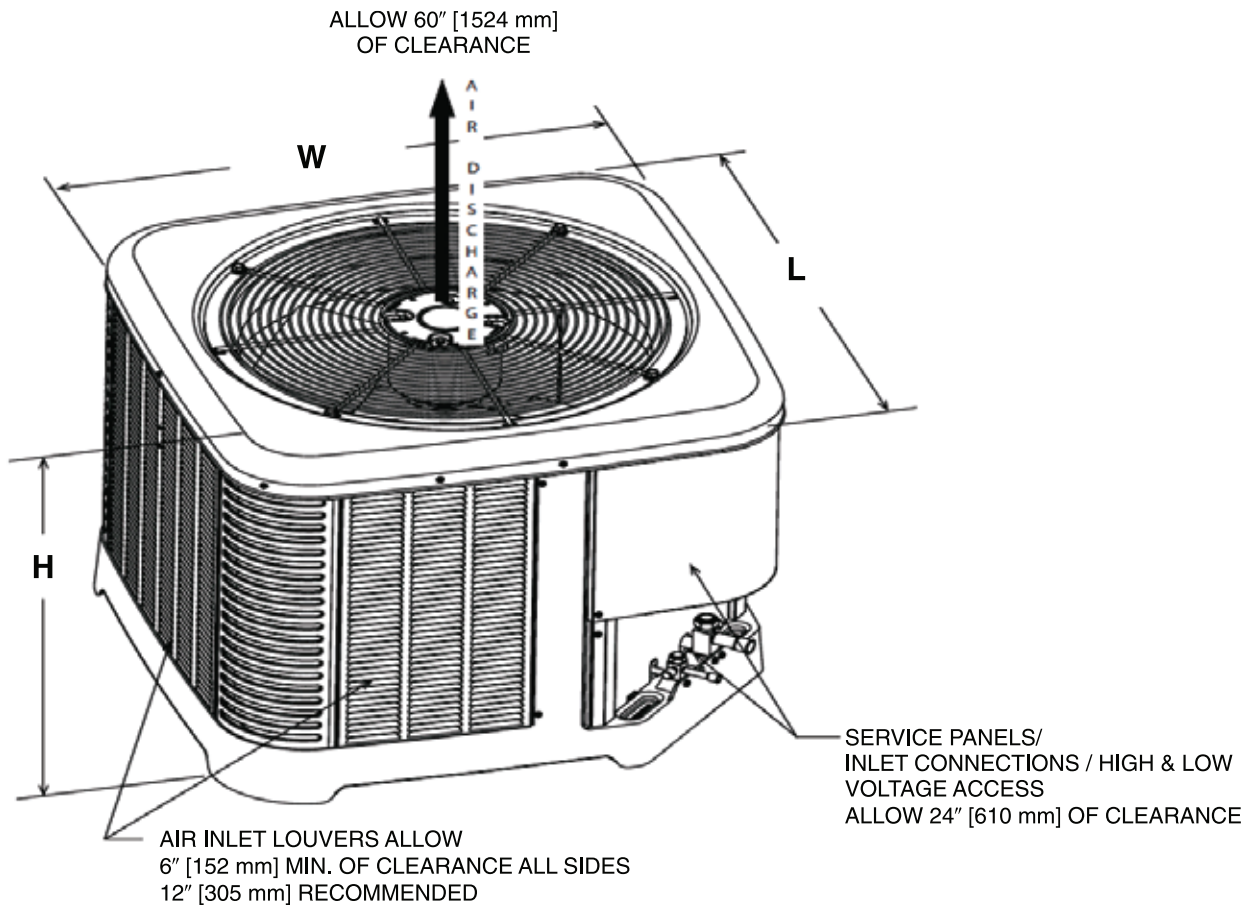
Brand	Descriptor (3 Characters)	Series (3 Characters)	System (2 Characters)	Type (2 Characters)
VHC	TST	213	UN	MS
VHC= Ruud	TST=Thermostat	200=Programmable 300=Deluxe Programmable 400=Special Applications/ Programmable	GE=Gas/Electric UN=Universal (AC/HP/GE) MD=Modulating Furnace DF=Dual Fuel CM=Communicating	SS=Single-Stage MS=Multi-Stage

\* Photos are representative. Actual models may vary.

For detailed thermostat match-up information,  
 see *specification* sheet form number T11-001.

## VA14 Unit Dimensions

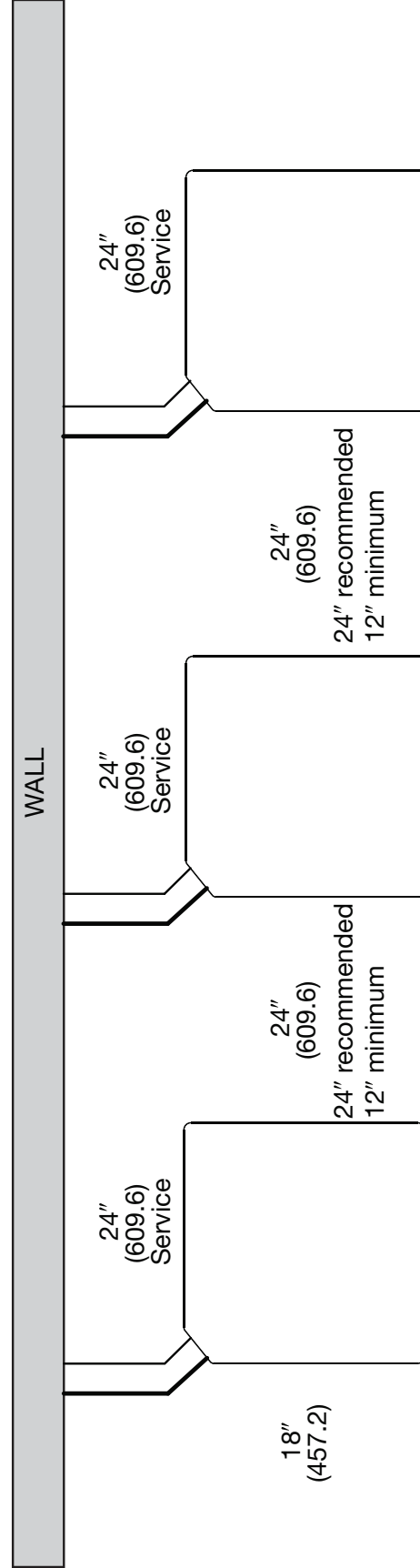
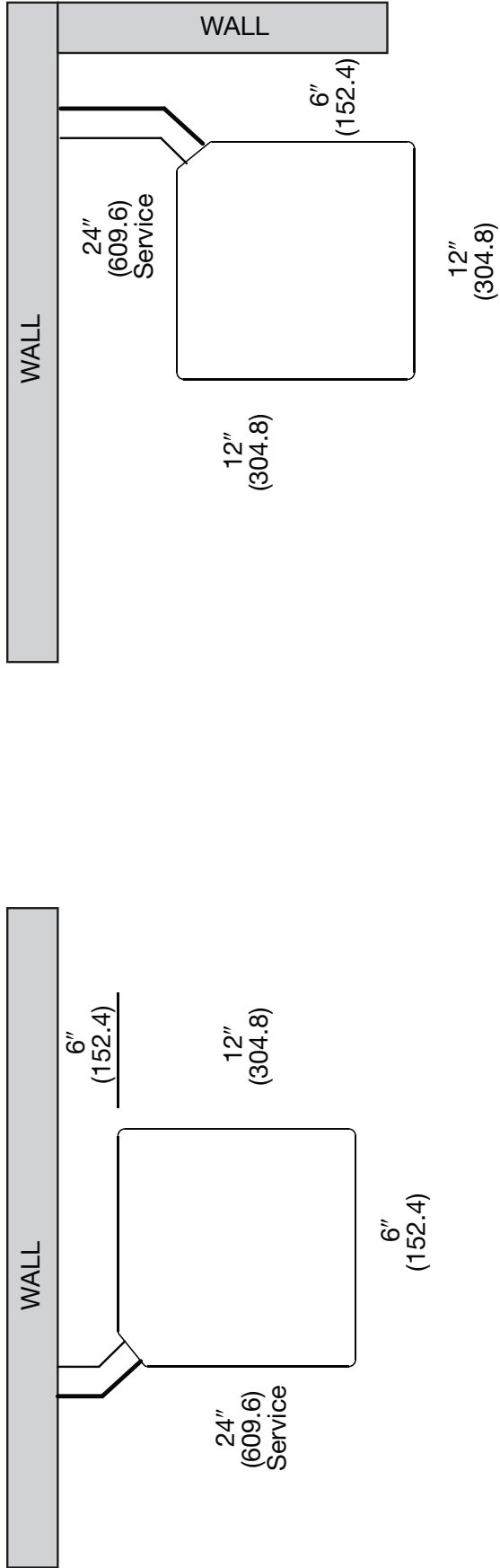
MODEL NO.	OPERATING						SHIPPING					
	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
VA1418A	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
VA1424A	25	635	29.75	755	29.75	755	26.75	679	32.38	822	32.38	822
VA1430A	27	685	29.75	755	29.75	755	28.75	730	32.38	822	32.38	822
VA1436A	27	685	33.75	857	33.75	857	28.75	730	36.38	924	36.38	924
VA1442A	31	787	33.75	859	33.75	859	32.75	832	36.38	924	36.38	924
VA1448A	31	787	35.75	908	35.75	908	32.75	832	38.38	975	38.38	975
VA1460A	35	889	35.75	908	35.75	908	36.75	933	38.38	975	38.38	975



[ ] Designates Metric Conversions

ST-A1226-02-00

## VA14 CLEARANCES

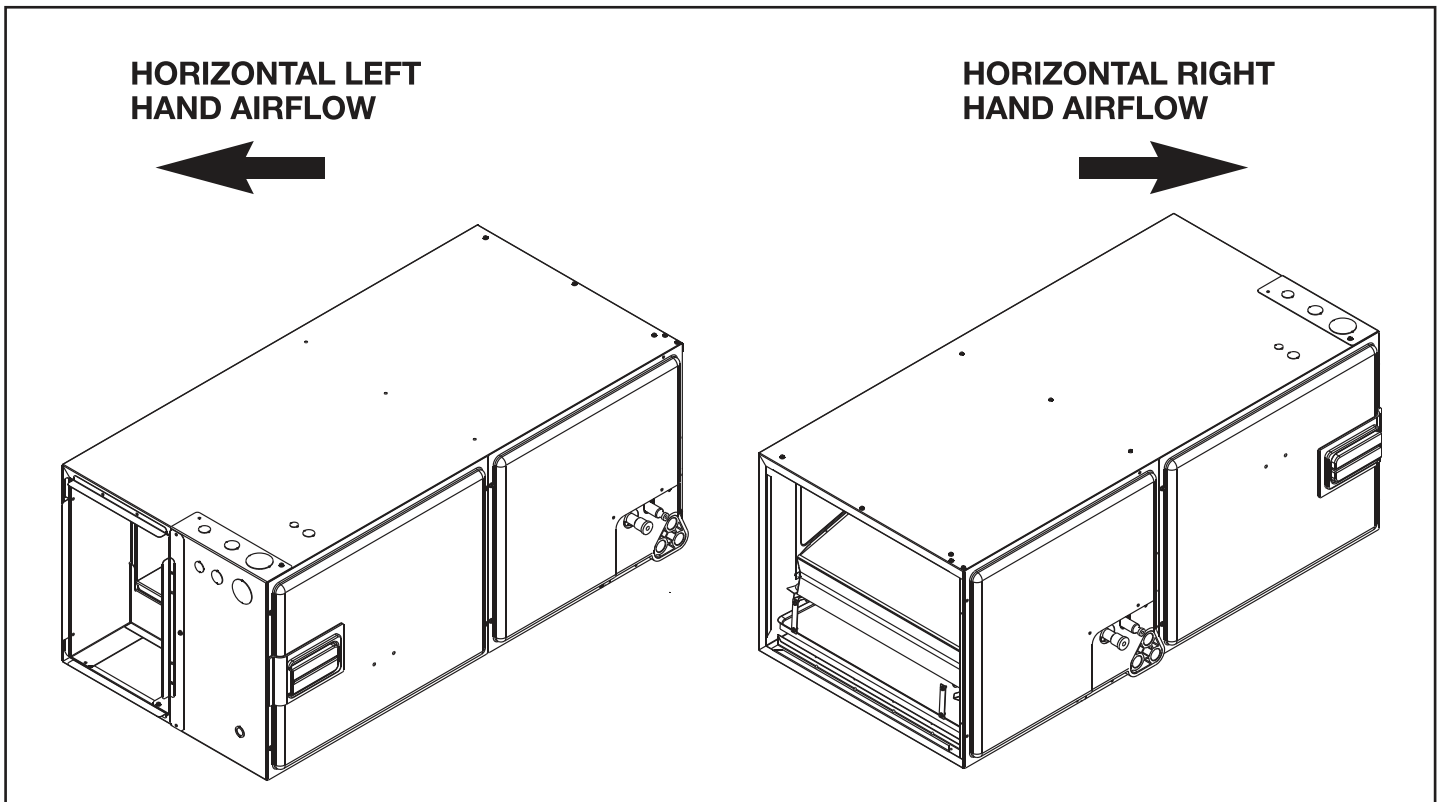
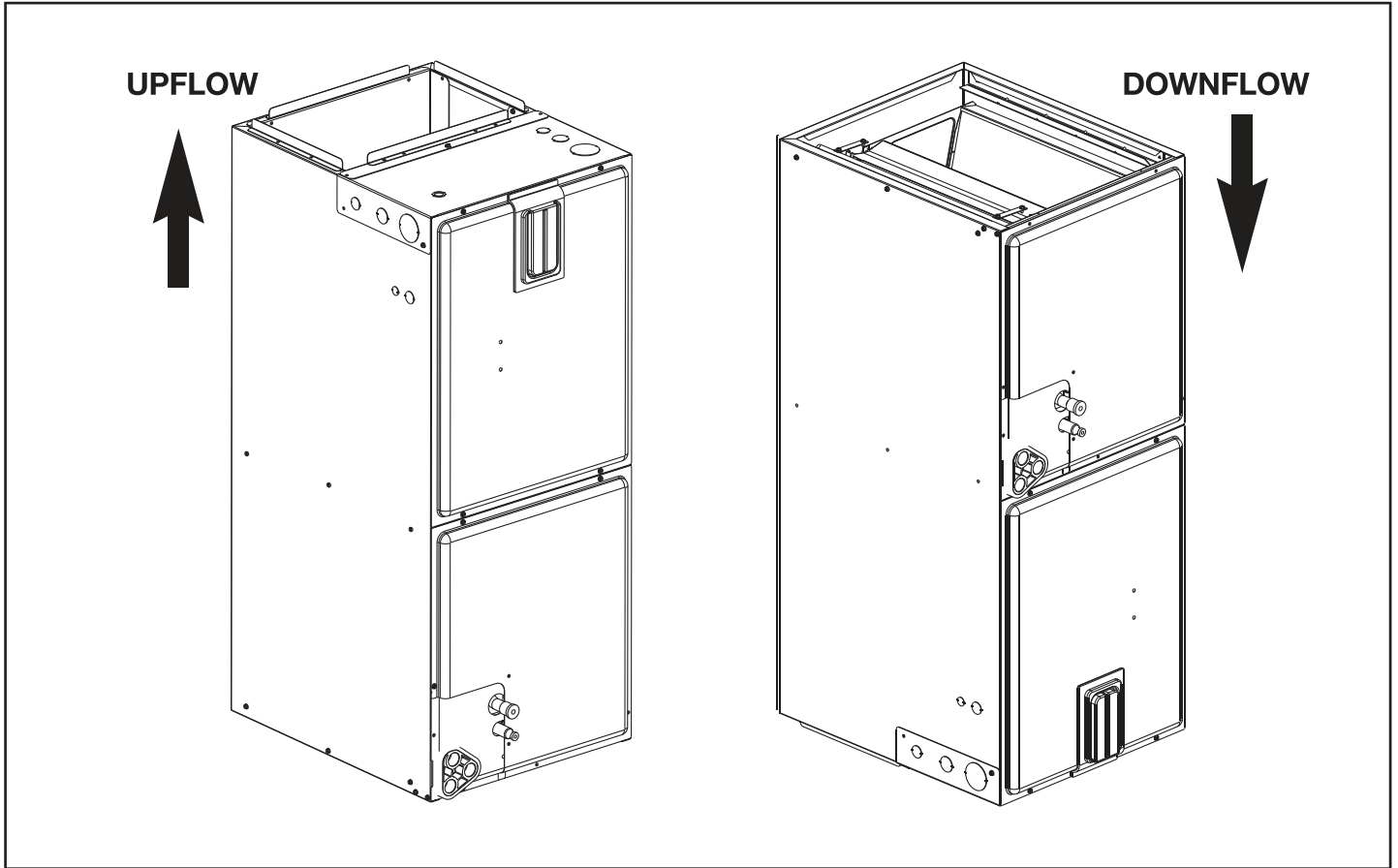


**NOTE: NUMBERS IN 0 = mm**

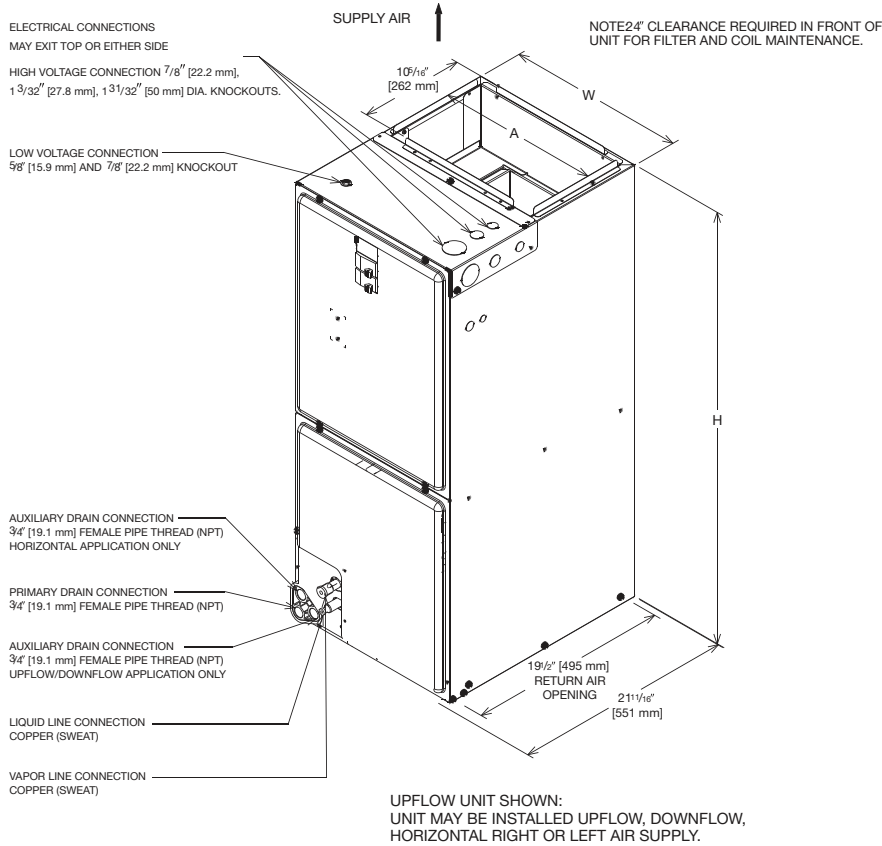
IMPORTANT: When installing multiple units in an alcove, roof well or partially enclosed area, ensure there is adequate ventilation to prevent re-circulation of discharge air.

ST-A1225-01-00

# VH1T Airflow Directional Data

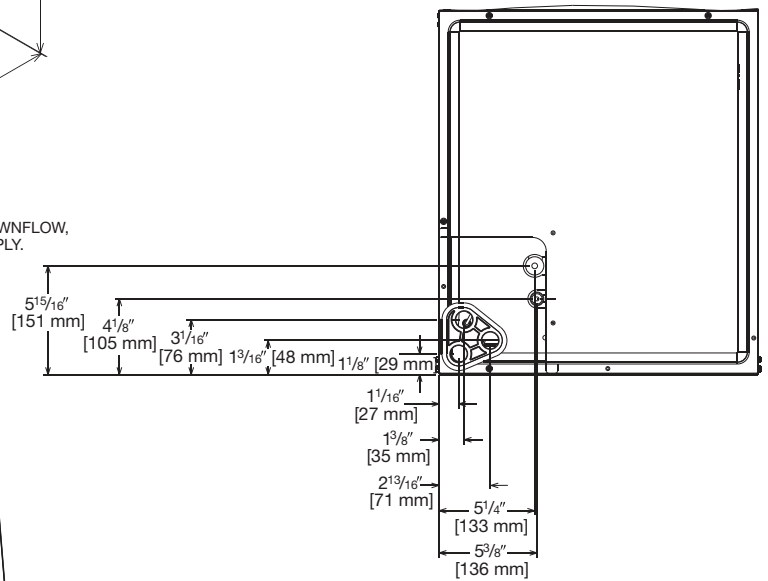
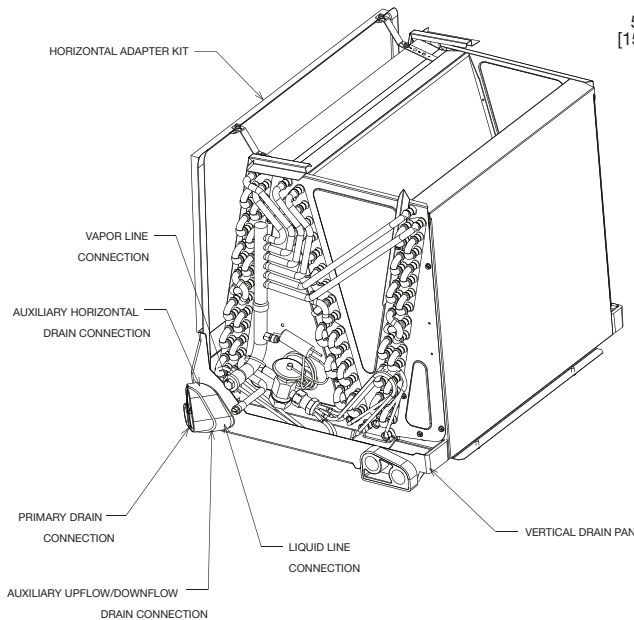


# VH1T Unit Dimensions



## Return Air Opening Dimensions

Model Cabinet Size	Return Air Opening Width (Inches)	Return Air Opening Depth/Length (Inches)
17	15 <sup>7</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>
21	19 <sup>3</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>
24	22 <sup>7</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub>



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

[ ] Designates Metric Conversions

( ) Designates Unit with Double Coil Cabinet

## VH1T Unit Dimensions & Weights

Model Size VH1T	Refrigerant Connections Sweat (In.) [mm] ID		Unit Width "W" In. [mm]	Unit Height "H" In. [mm]	Supply Duct "A" In. [mm]	Air Flow CFM (Nom.) [L/s]		Unit Weight/Shipping Weight (Lbs.) [kg]
	Liquid	Vapor				Lo	Hi	Unit With Coil (Max. KW)
2417ST	3/8 [9.53]	3/4 [19.05]	17 1/2 [445]	42 1/2 [1080]	16 [406]	600 [283]	800 [378]	92/105 [42/48]
3617ST	3/8 [9.53]	3/4 [19.05]	17 1/2 [445]	42 1/2 [1080]	16 [406]	1000 [472]	1200 [566]	96/110 [44/50]
4821ST	3/8 [9.53]	7/8 [22.23]	21 [533]	50 1/2 [1282]	19 1/2 [495]	1400 [661]	1600 [755]	128/144 [56/65]
6024ST	3/8 [9.53]	7/8 [22.23]	24 1/2 [622]	55 1/2 [1410]	23 [584]	—	1800 [850]	159/176 [72/80]

\*Maximum dehumidification airflow.

## VH1T 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.

## VH1T Airflow Operating Limits

Model Cabinet Width	17		17/21		21		24
Cooling BTUH x 1,000	-19	-25	-30	-36	-42	-48	-60
Cooling Tons Nominal	1.5	2	2.5	3	3.5	4	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]	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]	1400 [661]	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]	1260 [595]	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]	20 1171 [553]	25 1502 [709]	30 1666 [786]
Maximum Electric Heat Rise °F [°C]	80 [26.7]	63 [17.2]	66 [18.9]	51 [10.6]	49 [9.4]	50 [10]	54 [12.2]

[ ] Designates Metric Conversions

## VH1T Airflow Performance Data – (Constant Torque (ECM) Motor)

Model No. VH1T	Tonnage Application	Motor Speed From Factory	Manufacturer Recommended Air-Flow Range (Min/Max) CFM	Blower Size/ Motor HP [W] # of Speed	Motor Speed	CFM [L/s] Air Delivery/RPM/Watts – 220-230 Volts							
						External Static Pressure – Inches W.C. [kPa]							
						0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	
2417ST No Heat	1.5 Ton	5	683/485 [322/229 L/s]	10x8 1/3 HP [249] 5 Speed	2	CFM	837 [395]	713 [366]	608 [287]	554 [261]	485 [229]	—	—
						RPM	565	587	630	692	751	—	—
						Watts	95	81	88	74	66	—	—
					3	CFM	—	—	—	—	683 [322]	615 [290]	572 [270]
						RPM	—	—	—	—	789	842	892
						Watts	—	—	—	—	140	159	155
2417ST with 13 kW Heater	1.5 Ton	5	683/485 [322/229 L/s]	10x8 1/3 HP [249] 5 Speed	2	CFM	814 [384]	692 [326]	589 [278]	535 [252]	467 [220]	—	—
						RPM	592	613	656	719	778	—	—
						Watts	108	90	97	82	73	—	—
					3	CFM	—	—	—	—	808 [381]	629 [297]	584 [276]
						RPM	—	—	—	—	789	842	892
						Watts	—	—	—	—	148	168	163
2417ST No Heat	2 Ton	5	858/697 [405/329 L/s]	10x8 1/3 HP [249] 5 Speed	4	CFM	902 [426]	846 [399]	788 [372]	742 [350]	679 [320]	—	—
						RPM	596	645	694	741	791	—	—
						Watts	105	108	116	121	130	—	—
					5	CFM	—	—	—	—	858 [276]	816 [385]	770 [363]
						RPM	—	—	—	—	834	879	925
						Watts	—	—	—	—	185	182	214
2417ST with 13 kW Heater	2 Ton	5	683/485 [322/229 L/s]	10x8 1/3 HP [249] 5 Speed	4	CFM	882 [416]	827 [390]	769 [363]	723 [341]	661 [312]	—	—
						RPM	595	670	719	767	817	—	—
						Watts	113	125	124	129	197	—	—
					5	CFM	—	—	—	—	833 [393]	791 [373]	746 [352]
						RPM	—	—	—	—	852	898	—
						Watts	—	—	—	—	192	189	222
3617ST No Heater	2.5 Ton	5	935/1084 CFM [441/512 L/s]	10x8 1/2 HP [373] 5 Speed	2	CFM	1093 [516]	1050 [496]	1017 [480]	977 [461]	935 [441]	—	—
						RPM	671	725	764	809	852	—	—
						Watts	153	168	174	180	188	—	—
					3	CFM	—	—	—	—	1084 [512]	1040 [491]	1001 [472]
						RPM	—	—	—	—	896	936	971
						Watts	—	—	—	—	249	257	261
3617ST with 18 kW Heater	2.5 Ton	5	910/1059 CFM [429/500 L/s]	10x8 1/2 HP [373] 5 Speed	2	CFM	1068 [504]	1025 [484]	992 [468]	952 [449]	910 [429]	—	—
						RPM	711	765	804	849	892	—	—
						Watts	164	179	185	191	199	—	—
					3	CFM	—	—	—	—	1059 [500]	1015 [479]	976 [461]
						RPM	—	—	—	—	936	976	1011
						Watts	—	—	—	—	260	268	272
3617ST No Heater	3 Ton	5	1130/1275 CFM [533/602 L/s]	10x8 1/2 HP [373] 5 Speed	4	CFM	1270 [599]	1237 [584]	1199 [566]	1165 [550]	1130 [533]	—	—
						RPM	775	816	846	882	926	—	—
						Watts	237	249	259	268	277	—	—
					5	CFM	—	—	—	—	1275 [602]	1244 [587]	1211 [571]
						RPM	—	—	—	—	963	999	1029
						Watts	—	—	—	—	338	348	363
3617ST with 18 kW Heater	3 Ton	5	1105/1250 CFM [521/590 L/s]	10x8 1/2 HP [373] 5 Speed	4	CFM	1245 [588]	1212 [572]	1174 [554]	1140 [538]	1105 [521]	—	—
						RPM	815	856	886	922	966	—	—
						Watts	248	260	270	279	288	—	—
					5	CFM	—	—	—	—	1250 [590]	1219 [575]	1186 [560]
						RPM	—	—	—	—	1003	1039	1069
						Watts	—	—	—	—	349	359	374

[ ] Designates Metric Conversions

### VH1T Airflow Performance Data – (Constant Torque (ECM) Motor) (con't.)

Model No. VH1T	Tonnage Application	Motor Speed From Factory	Manufacturer Recommended Air-Flow Range (Min/Max) CFM	Blower Size/ Motor HP [W] # of Speed	Motor Speed	CFM [L/s] Air Delivery/RPM/Watts – 220-230 Volts							
						External Static Pressure – Inches W.C. [kPa]							
						0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]	
4821ST No Heater	3.5 Ton	5	1337/1447 CFM [631/683 L/s]	10x10 3/4 HP [559] 5 Speed	2	CFM	1473 [695]	1442 [681]	1401 [661]	1373 [648]	1337 [631]	–	–
						RPM	781	825	867	905	949	–	–
						Watts	257	271	303	307	315	–	–
					3	CFM	–	–	–	–	1447 [683]	1433 [676]	1402 [662]
						RPM	–	–	–	–	987	1034	1065
						Watts	–	–	–	–	394	406	405
4821ST with 20 kW Heater	3.5 Ton	5	1297/1333 CFM [612/629 L/s]	10x10 3/4 HP [559] 5 Speed	2	CFM	1433 [676]	1402 [662]	1361 [642]	1333 [629]	1297 [612]	–	–
						RPM	831	875	919	954	989	–	–
						Watts	277	295	313	319	325	–	–
					3	CFM	–	–	–	–	1333 [629]	1300 [613]	1267 [598]
						RPM	–	–	–	–	1011	1046	1080
						Watts	–	–	–	–	350	364	377
4821ST No Heater	4 Ton	5	1535/1654 CFM [724/781 L/s]	10x10 3/4 HP [559] 5 Speed	4	CFM	1665 [786]	1631 [770]	1601 [756]	1572 [742]	1535 [724]	–	–
						RPM	853	893	934	968	1015	–	–
						Watts	351	387	401	406	422	–	–
					5	CFM	–	–	–	–	1654 [781]	1624 [766]	1563 [738]
						RPM	–	–	–	–	1036	1078	1095
						Watts	–	–	–	–	500	513	523
4821ST with 25 kW Heater	4 Ton	5	1495/1614 CFM [706/762 L/s]	10x10 3/4 HP [559] 2 Speed	4	CFM	1625 [767]	1591 [751]	1561 [737]	1532 [723]	1495 [706]	–	–
						RPM	894	932	970	1020	1052	–	–
						Watts	389	400	410	430	450	–	–
					5	CFM	–	–	–	–	1614 [762]	1584 [748]	1523 [719]
						RPM	–	–	–	–	1085	1090	1105
						Watts	–	–	–	–	514	520	530
6024ST No Heater	5 Ton	4, 5	1517/1699 CFM [715/800 L/s]	11x11 3/4 HP [559] 5 Speed	2	CFM	1705 [800]	1661 [703]	1632 [770]	1572 [741]	1517 [915]	–	–
						RPM	663	701	741	782	819	–	–
						Watts	292	309	321	343	357	–	–
					3	CFM	–	–	–	–	1699 [500]	1646 [776]	1601 [725]
						RPM	–	–	–	–	857	895	920
						Watts	–	–	–	–	447	466	473
6024ST with 30 kW Heater	5 Ton	4, 5	1477/1655 CFM [687/785 L/s]	11x11 3/4 HP [559] 5 Speed	2	CFM	1665 [995]	1621 [965]	1592 [751]	1532 [723]	1477 [697]	–	–
						RPM	701	739	779	820	857	–	–
						Watts	313	330	342	364	378	–	–
					3	CFM	–	–	–	–	1657 [787]	1606 [759]	1561 [735]
						RPM	–	–	–	–	895	933	958
						Watts	–	–	–	–	968	487	494

[ ] Designates Metric Conversions

## VH1T Airflow Performance Data – (Constant Torque (ECM) Motor) (con't.)

Model No. VH1T	Tonnage Application	Motor Speed From Factory	Manufacturer Recommended Air-Flow Range (Min/Max) CFM	Blower Size/ Motor HP [W] # of Speed	Motor Speed	X-13 CFM [L/s] Air Delivery/RPM/Watts—220/230 Volts									
						External Static Pressure—Inches W.C. [kPa]									
						0.1 [.02]	0.2 [.05]	0.3 [.07]	0.4 [.10]	0.5 [.12]	0.6 [.15]	0.7 [.17]			
6024ST No Heater	5 Ton	5	1739/1905 CFM [821/899 L/s]	11x11 3/4 HP [559] 5 Speed	4	CFM	1902 [898]	1862 [879]	1809 [854]	1781 [840]	1739 [821]	—	—		
						RPM	712	749	787	815	856	—	—		
						Watts	389	409	419	432	459	—	—		
					5	CFM	—	—	—	—	1905 [899]	1866 [881]	1832 [865]	—	—
						RPM	—	—	—	—	894	924	950	—	—
						Watts	—	—	—	—	565	570	592	—	—
6024ST with 30 kW Heater	5 Ton	5	1699/1865 CFM [802/880 L/s]	11x11 3/4 HP [559] 5 Speed	4	CFM	1862 [879]	1822 [860]	1769 [835]	1741 [822]	1699 [802]	—	—		
						RPM	750	790	810	850	880	—	—		
						Watts	410	420	430	455	479	—	—		
					5	CFM	—	—	—	—	1865 [880]	1826 [862]	1792 [846]	—	—
						RPM	—	—	—	—	920	945	970	—	—
						Watts	—	—	—	—	565	587	610	—	—

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, which is set at Speed tab 3. For instance, VH1T2414ST 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 Speed tab as required by the application needs.

- 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 (actual kW/maximum heater kW)

[ ] Designates Metric Conversion

## VH1T Electrical Data – Blower Motor Only – No Electric Heat

Model VH1T	Voltage	Application Phase	Hertz	HP [W]	RPM	Speeds	Circuit Amps.	Minimum Circuit Ampacity	Maximum Circuit Protector
2417STANJA030	220-230	1	60	1/3 [249]	300-1100	4	1.6	2.0	15
3617STANJA030				1/2 [373]	300-1100	4	2.7	4.0	15
4821STANJA030				3/4 [559]	300-1100	4	3.8	5.0	15
6024STANJA030				3/4 [559]	300-1100	4	4.6	6.0	15

Blower motors are all single phase motors

[ ] Designates Metric Conversions

## Estimated Sound Pressure data

MODEL	Speed Tap in Unit	Frequency (Hz)								Overall (dBA)
		63	125	250	500	1000	2000	4000	8000	
VH1T2417	LOW	30.1	40	37.1	38.1	39.1	35.1	30.1	23.1	45.6
	MED	31.1	41	43.1	39.1	40.1	35.1	31.1	24.1	47.7
	HI	32.1	42	48.1	40.1	40.1	36.1	32.1	25.1	50.5
VH1T3617	LOW	27.1	37	34.1	35.1	36.1	32.1	27.1	20.1	42.6
	MED	28.1	38	35.1	36.6	37.6	34.1	28.1	21.1	43.9
	HI	29.1	39	36.1	38.1	39.1	36.1	29.1	22.1	45.3
VH1T4821	LOW	33.1	43	40.1	41.1	42.1	38.1	33.1	26.1	48.7
	MED	34.1	44	41.1	42.6	43.7	40.1	34.6	27.1	50
	HI	35.1	45	42.1	44.1	45.3	42.1	36.1	28.1	51.4
VH1T6024	LOW	33.1	43	40.1	41.1	42.1	38.1	33.1	26.1	48.7
	MED	34.1	43	41.1	42.6	44.1	39.9	34.7	27.1	49.9
	HI	35.1	43	42.1	44.1	46.1	41.7	36.3	28.1	51.2

At 3 meter from unit outlet and 2 meter below the unit  
 Data at dry coil condition

## VH1T Electrical Data –With RXBH- Electric Heat Accessory

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

Air Handler Model VH1T	Heater Model No.*	Voltage	Heater kW 230V	PH/HZ	No. Elements kW Per	Type Supply Circuit Single Circuit Multiple	Circuit Amps (Heater)	Motor Ampacity	Minimum Circuit Ampacity	Maximum Curcuit Protector
2417ST	RXBH-17A03J RXBH-1724A03J	230	2.8	1/60	1-2.8	SINGLE	12.0	1.6	18	20
	RXBH-1724A05J	230	4.4	1/60	1-4.4	SINGLE	19.2	1.6	27	30
	RXBH-1724A07J	230	6.6	1/60	2-3.3	SINGLE	28.8	1.6	40	40
	RXBH-1724A10J	230	8.8	1/60	2-4.4	SINGLE	38.3	1.6	52	60
	RXBH-1724B05J	230	4.4	1/60	1-4.4	SINGLE	19.2	1.6	27	30
	RXBH-1724B07J	230	6.6	1/60	2-3.3	SINGLE	28.8	1.6	40	40
	RXBH-1724B10J	230	8.8	1/60	2-4.4	SINGLE	38.3	1.6	52	60
	RXBH-1724C05J	230	4.4	1/60	1-4.4	SINGLE	19.2	1.6	27	30
	RXBH-1724C07J	230	6.6	1/60	2-3.3	SINGLE	28.8	1.6	40	40
RXBH-1724C10J	230	8.8	1/60	2-4.4	SINGLE	38.3	1.6	52	60	
3617ST	RXBH-17A03J RXBH-1724A03J	230	2.8	1/60	1-2.8	SINGLE	12	2.8	20	20
	RXBH-1724A05J	230	4.4	1/60	1-4.4	SINGLE	19.2	2.8	29	30
	RXBH-1724A07J	230	6.6	1/60	2-3.3	SINGLE	28.8	2.8	41	45
	RXBH-1724A10J	230	8.8	1/60	2-4.4	SINGLE	38.3	2.8	54	60
	RXBH-1724A15J	230	13.2	1/60	3-4.4	SINGLE	57.5	2.8	79	80
	RXBH-1724A15J	230	4.4	1/60	1-4.4	MULTIPLE CKT 1	19.2	2.8	29	30
		230	8.8	1/60	2-4.4	MULTIPLE CKT 2	38.3	0.0	50	50
	RXBH-1724A18J	230	15.6	1/60	3-5.2	SINGLE	67.9	2.8	92	100
		230	5.2	1/60	1-5.2	MULTIPLE CKT 1	22.6	2.8	33	35
	RXBH-1724A18J	230	10.4	1/60	2-5.2	MULTIPLE CKT 2	45.2	0.0	59	60
		RXBH-1724B05J	230	4.4	1/60	1-4.4	SINGLE	19.2	2.8	29
	RXBH-1724B07J	230	6.6	1/60	2-3.3	SINGLE	28.8	2.8	41	45
	RXBH-1724B10J	230	8.8	1/60	2-4.4	SINGLE	38.3	2.8	54	60
	RXBH-1724C05J	230	4.4	1/60	1-4.4	SINGLE	19.2	2.8	29	30
	RXBH-1724C07J	230	6.6	1/60	2-3.3	SINGLE	28.8	2.8	41	45
RXBH-1724C10J	230	8.8	1/60	2-4.4	SINGLE	38.3	2.8	54	60	
4821ST	RXBH-1724A03J	230	2.8	1/60	1-2.8	SINGLE	12.0	4.0	25	25
	RXBH-1724A05J	230	4.4	1/60	1-4.4	SINGLE	19.2	4.0	30	30
	RXBH-1724A07J	230	6.6	1/60	2-3.3	SINGLE	28.8	4.0	43	45
	RXBH-1724A10J	230	8.8	1/60	2-4.4	SINGLE	38.3	4.0	55	60
	RXBH-1724A15J	230	13.2	1/60	3-4.4	SINGLE	57.5	4.0	80	80
	RXBH-1724A15J	230	4.4	1/60	1-4.4	MULTIPLE CKT 1	19.2	4.0	30	30
		230	8.8	1/60	2-4.4	MULTIPLE CKT 2	38.3	0.0	50	50
	RXBH-1724A18J	230	15.6	1/60	3-5.2	SINGLE	67.9	4.0	94	100
	RXBH-1724A18J	230	5.2	1/60	1-5.2	MULTIPLE CKT 1	22.6	4.0	35	35
		230	10.4	1/60	2-5.2	MULTIPLE CKT 2	45.2	0.0	52	60
	RXBH-24A20J	230	17.6	1/60	4-4.4	SINGLE	76.7	4.0	105	110
	RXBH-24A20J	230	8.8	1/60	2-4.4	MULTIPLE CKT 1	38.3	4.0	55	60
		230	8.8	1/60	2-4.4	MULTIPLE CKT 2	38.3	0.0	50	50
	RXBH-24A25J	230	21.9	1/60	6-3.65	SINGLE	95.7	4.0	130	150

\*Heater Kit Connection Type A = Breaker B = Terminal Block C = Pullout Disconnect  
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.

- If the kit is listed under both single and multiple circuits, the kit is shipped from factory as multiple circuits. For single power 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.

[ ] Designates Metric Conversions

## VH1T Electrical Data –With RXBH- Electric Heat Accessory (Cont.)

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

Air Handler Model VH1T	Heater Model No.*	Voltage	Heater kW 230V	PH/HZ	No. Elements kW Per	Type Supply Circuit Single Circuit Multiple	Circuit Amps (Heater)	Motor Ampacity	Minimum Circuit Ampacity	Maximum Curcuit Protector
4821ST	RXBH-24A25J	230	7.3	1/60	2-3.65	MULTIPLE CKT 1	31.9	4.0	47	50
		230	7.3	1/60	2-3.65	MULTIPLE CKT 2	31.9	0.0	42	45
		230	7.3	1/60	2-3.65	MULTIPLE CKT 3	31.9	0.0	42	45
	RXBH-1724B05J	230	4.4	1/60	1-4.4	SINGLE	19.2	4.0	30	30
	RXBH-1724B7J	230	6.6	1/60	2-3.3	SINGLE	28.8	4.0	43	45
	RXBH-1724B10J	230	8.8	1/60	2-4.4	SINGLE	38.3	4.0	55	60
	RXBH-1724C05J	230	4.4	1/60	1-4.4	SINGLE	19.2	4.0	30	30
	RXBH-1724C07J	230	6.6	1/60	2-3.3	SINGLE	28.8	4.0	43	45
RXBH-1724C10J	230	8.8	1/60	2-4.4	SINGLE	38.3	4.0	55	60	
6024ST	RXBH-1724A03J	230	2.8	1/60	1-2.8	SINGLE	12.0	4.6	30	30
	RXBH-1724A05J	230	4.4	1/60	1-4.4	SINGLE	19.2	4.6	31	35
	RXBH-1724A07J	230	6.6	1/60	2-3.3	SINGLE	28.8	4.6	44	45
	RXBH-1724A10J	230	8.8	1/60	2-4.4	SINGLE	38.3	4.6	56	60
	RXBH-1724A15J	230	13.2	1/60	3-4.4	SINGLE	57.5	4.6	81	90
	RXBH-1724A15J	230	4.4	1/60	1-4.4	MULTIPLE CKT 1	19.2	4.6	31	35
		230	8.8	1/60	2-4.4	MULTIPLE CKT 2	38.3	0.0	50	50
	RXBH-1724A18J	230	15.6	1/60	3-5.2	SINGLE	67.9	4.6	95	100
	RXBH-1724A18J	230	5.2	1/60	1-5.2	MULTIPLE CKT 1	22.6	4.6	36	35
		230	10.4	1/60	2-5.2	MULTIPLE CKT 2	45.2	0.0	59	60
	RXBH-24A20J	230	17.6	1/60	4-4.4	SINGLE	76.7	4.6	106	110
	RXBH-24A20J	230	8.8	1/60	2-4.4	MULTIPLE CKT 1	38.3	4.6	56	60
		230	8.8	1/60	2-4.4	MULTIPLE CKT 2	38.3	0.0	50	50
	RXBH-24A25J	230	21.9	1/60	6-3.65	SINGLE	95.7	4.6	131	150
	RXBH-24A25J	230	7.3	1/60	2-3.65	MULTIPLE CKT 1	31.9	4.6	48	50
		230	7.3	1/60	2-3.65	MULTIPLE CKT 2	31.9	0.0	42	45
		230	7.3	1/60	2-3.65	MULTIPLE CKT 3	31.9	0.0	42	45
	RXBH-24A30J	230	26.4	1/60	6-4.4	SINGLE	115	4.6	156	175
	RXBH-24A30J	230	8.8	1/60	2-4.4	MULTIPLE CKT 1	38.3	4.6	56	60
		230	8.8	1/60	2-4.4	MULTIPLE CKT 2	38.3	0.0	50	50
		230	8.8	1/60	2-4.4	MULTIPLE CKT 3	38.3	0.0	50	50
	RXBH-1724B05J	230	4.4	1/60	1-4.4	SINGLE	19.2	4.6	31	35
	RXBH-1724B07J	230	6.6	1/60	2-3.3	SINGLE	28.8	4.6	44	45
	RXBH-1724B10J	230	8.8	1/60	2-4.4	SINGLE	38.3	4.6	56	60
RXBH-1724C05J	230	4.4	1/60	1-4.4	SINGLE	19.2	4.6	31	35	
RXBH-1724C07J	230	6.6	1/60	2-3.3	SINGLE	28.8	4.6	44	45	
RXBH-1724C10J	230	8.8	1/60	2-4.4	SINGLE	38.3	4.6	56	60	

\*Heater Kit Connection Type A = Breaker B = Terminal Block C = Pullout Disconnect

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.

- If the kit is listed under both single and multiple circuits, the kit is shipped from factory as multiple circuits. For single power 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.

[ ] Designates Metric Conversions

## VH1T Accessories

- 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.

### • Auxiliary Horizontal Overflow Pan Accessory RXBM-

Nominal Cooling Capacity-Tons	Auxiliary Horizontal Overflow Pan Accessory Model Number
1 <sup>1</sup> / <sub>2</sub> - 3	RXBM-AC48
3 <sup>1</sup> / <sub>2</sub> - 5	RXBM-AC61

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

Model Cabinet Size	Filter Size In. [mm]	Part Number*	A	B
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

[ ] Designates Metric Conversions

### • Auxiliary Electric Heater Kits RXBH-

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

### • External Filter Base RXHF-

Model Cabinet Size	Filter Size In. [mm]	Part Number*	A	B
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

### • Horizontal Adapter Kit RXHH-

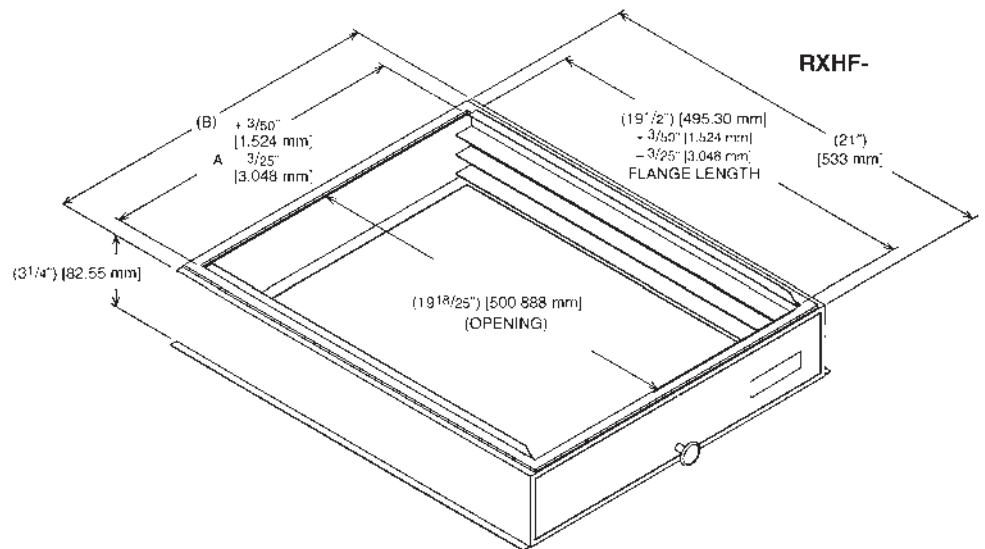
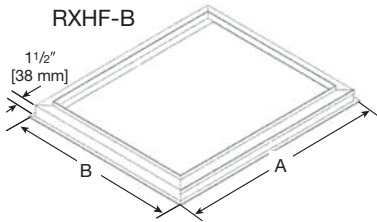
This horizontal adapter kit is used to convert Upflow/Downflow only models to horizontal flow. See the following table to order proper horizontal adapter kit.

Coil Model	Horizontal Adapter Kit Model Number (Single Qty.)	Horizontal Adapter Kit Model Number (10-Pack Qty.)
2417	RXHH-A02	RXHH-A02 x 10
3617/3621	RXHH-A03	RXHH-A03 x 10
4821	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*	A	B
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



## Electrical Wiring General

### 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.

### 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.

## SASO T1/T3 Ratings

ODU Model	VA1418AJ1NB030	VA1424AJ1NB030	VA1430AJ1NB030	VA1436AJ1NB030	VA1442AJ1NB030	VA1448AJ1NB030	VA1460AJ1NB030
IDU Model	VH1T2417STANJA030	VH1T2417STANJA030	VH1T3617STANJA030	VH1T3617STANJA030	VH1T4821STANJA030	VH1T4821STANJA030	VH1T6024STANJA030
	Rated Value	Rated Value	Rated Value	Rated Value	Rated Value	Rated Value	Rated Value
<b>T1 Capacity (Btu/Hr)</b>	17800.00	24000.00	28800.00	34200.00	41500.00	46000.00	56300.00
<b>T1 EER (Btu/Hr/W)</b>	12.714	12.973	12.522	12.200	12.576	12.400	11.979
<b>T1 Power (kW)</b>	1.40	1.85	2.30	2.80	3.30	3.70	4.70
<b>T1 Current (A)</b>	6.50	8.50	11.00	13.00	16.00	18.00	22.00
<b>T3 Capacity (Btu/Hr)</b>	16200.00	20200.00	24700.00	29150.00	34700.00	40600.00	47500.00
<b>T3 EER (Btu/Hr/W)</b>	9.310	8.417	8.517	8.574	8.463	8.458	8.333
<b>T3 Power (kW)</b>	1.74	2.40	2.90	3.40	4.10	4.80	5.70
<b>T3 Current (A)</b>	8.50	11.00	14.00	16.00	19.50	23.00	26.50
<b>Annual Energy Consumption (kW/Hr)</b>	3780	4995	6210	7560	8910	9990	12690

[ ] Designates Metric Conversions

## Performance Data @ AHRI Standard Conditions –Cooling

Air Handler Ratings						
Outdoor Unit	Air Handler	Total Capacity BTU/H [kW]	Net Sensible BTU/H [kW]	Net Latent BTU/H [kW]	EER	Indoor CFM [L/s]
VA1418AJ1	VH1T2417STAN	18000 [5.3]	13700 [4.0]	4300 [1.3]	13.00	600 [283.2]
VA1424AJ1	VH1T2417STAN	24000 [7.0]	18100 [5.3]	5900 [1.7]	13.00	800 [377.6]
VA1430AJ1	VH1T3617STAN	29400 [8.6]	22400 [6.6]	7000 [2.1]	13.00	1000 [471.9]
VA1436AJ1	VH1T3617STAN	35600 [10.4]	26700 [7.8]	8900 [2.6]	12.50	1200 [566.3]
VA1442AJ1	VH1T4821STAN	41000 [12.0]	31000 [9.1]	10000 [2.9]	12.00	1400 [660.7]
VA1448AJ1	VH1T4821STAN	46500 [13.6]	33900 [9.9]	12600 [3.7]	12.50	1400 [660.7]
VA1460AJ1	VH1T6024STAN	58000 [17.0]	41100 [12.0]	16900 [5.0]	12.00	1600 [755.1]

COOLING PERFORMANCE DATA - VA1418AJ1+VH1T2417STAN

Outdoor Dry Bulb Temperature	wBE CFM [L/s]	Entering Indoor Air @ 80°F [26.7°C] dbE ①														
		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			61°F [16.1°C]			59°F [15.0°C]		
		800 [378]	650 [307]	500 [236]	800 [378]	650 [307]	500 [236]	800 [378]	650 [307]	500 [236]	800 [378]	650 [307]	500 [236]	800 [378]	650 [307]	500 [236]
DR ①		0.2	0.16	0.1	0.2	0.16	0.1	0.2	0.16	0.1	0.2	0.16	0.1	0.2	0.16	0.1
75°F [23.9°C]	Total BTUH [kW] Sens BTUH [kW] Power	22.5 [6.6] 14.3 [4.2]	21.5 [6.3] 12.9 [3.8]	20.6 [6] 11.5 [3.4]	21.2 [6.2] 16.6 [4.9]	20.3 [6] 15 [4.4]	19.5 [5.7] 13.4 [3.9]	20.1 [5.9] 18.5 [5.4]	19.2 [5.6] 16.7 [4.9]	18.4 [5.4] 14.9 [4.5]	19.6 [5.7] 19.2 [5.6]	18.8 [5.5] 17.3 [5.1]	18 [5.3] 15.4 [4.5]	19.1 [5.6] 19.1 [5.6]	18.4 [5.4] 17.7 [5.2]	18 [5.3] 15.8 [4.6]
80°F [26.7°C]	Total BTUH [kW] Sens BTUH [kW] Power	21.9 [6.4] 14 [4.1]	21.1 [6.2] 12.7 [3.7]	20.2 [5.9] 11.3 [3.3]	20.7 [6.1] 16.4 [4.8]	19.8 [5.8] 14.8 [4.3]	19 [5.6] 13.2 [3.9]	19.6 [5.7] 18.2 [5.3]	18.8 [5.5] 16.5 [4.8]	18 [5.3] 14.7 [4.3]	19.1 [5.6] 18.9 [5.5]	18.3 [5.4] 17.1 [5]	17.5 [5.1] 15.2 [4.5]	18.6 [5.5] 18.6 [5.5]	17.9 [5.2] 17.5 [5.1]	17.1 [5] 15.6 [4.6]
85°F [29.4°C]	Total BTUH [kW] Sens BTUH [kW] Power	21.4 [6.3] 13.8 [4]	20.6 [6] 12.4 [3.6]	19.7 [5.8] 11.1 [3.2]	20.2 [5.9] 16.1 [4.7]	19.3 [5.7] 14.5 [4.3]	18.5 [5.4] 13 [3.8]	19 [5.6] 18 [5.3]	18.3 [5.4] 16.2 [4.8]	17.5 [5.1] 14.5 [4.2]	18.5 [5.4] 18.5 [5.4]	17.8 [5.2] 16.8 [4.9]	17 [5] 15 [4.4]	18.1 [5.3] 18.1 [5.3]	17.4 [5.1] 17.3 [5.1]	16.7 [4.9] 15.4 [4.5]
90°F [32.2°C]	Total BTUH [kW] Sens BTUH [kW] Power	20.9 [6.1] 13.5 [3.9]	20 [5.9] 12.2 [3.6]	19.2 [5.6] 10.8 [3.2]	19.6 [5.7] 15.8 [4.6]	18.8 [5.5] 14.3 [4.2]	18 [5.3] 12.7 [3.7]	18.5 [5.4] 17.7 [5.2]	17.7 [5.2] 16 [4.7]	17 [5] 14.2 [4.2]	18 [5.3] 18 [5.3]	17.3 [5.1] 16.6 [4.9]	16.5 [4.8] 14.8 [4.3]	17.6 [5.2] 17.6 [5.2]	16.9 [4.9] 16.9 [4.9]	16.2 [4.7] 15.2 [4.4]
95°F [35.0°C]	Total BTUH [kW] Sens BTUH [kW] Power	20.3 [6] 13.2 [3.9]	19.5 [5.7] 11.9 [3.5]	18.7 [5.5] 10.6 [3.1]	19.1 [5.6] 15.5 [4.5]	18.3 [5.4] 14 [4.1]	17.5 [5.1] 12.5 [3.7]	17.9 [5.3] 17.4 [5.1]	17.2 [5] 15.7 [4.6]	16.5 [4.8] 14 [4.1]	17.4 [5.1] 17.4 [5.1]	16.7 [4.9] 16.3 [4.8]	16 [4.7] 14.5 [4.3]	17 [5] 17 [5]	16.3 [4.8] 16.3 [4.8]	15.6 [4.6] 14.9 [4.4]
100°F [37.8°C]	Total BTUH [kW] Sens BTUH [kW] Power	19.7 [5.8] 12.8 [3.8]	18.9 [5.6] 11.6 [3.4]	18.1 [5.3] 10.3 [3]	18.5 [5.4] 15.2 [4.4]	17.7 [5.2] 13.7 [4]	17 [5] 12.2 [3.6]	17.3 [5.1] 17 [5]	16.6 [4.9] 15.4 [4.5]	15.9 [4.7] 13.7 [4]	16.9 [4.9] 16.9 [4.9]	16.2 [4.7] 16 [4.7]	15.5 [4.5] 14.3 [4.2]	16.4 [4.8] 16.4 [4.8]	15.8 [4.6] 15.8 [4.6]	15.1 [4.4] 14.6 [4.3]
105°F [40.6°C]	Total BTUH [kW] Sens BTUH [kW] Power	19.1 [5.6] 12.5 [3.7]	18.4 [5.4] 11.2 [3.3]	17.6 [5.2] 10 [2.9]	17.9 [5.2] 14.8 [4.3]	17.1 [5] 13.4 [3.9]	16.4 [4.8] 11.9 [3.5]	16.7 [4.9] 16.7 [4.9]	16.1 [4.7] 15 [4.4]	15.4 [4.5] 13.4 [3.9]	16.2 [4.8] 16.2 [4.8]	15.6 [4.6] 15.6 [4.6]	14.9 [4.4] 14 [4.1]	15.8 [4.6] 15.8 [4.6]	15.2 [4.5] 15.2 [4.5]	14.6 [4.3] 14.4 [4.2]
110°F [43.3°C]	Total BTUH [kW] Sens BTUH [kW] Power	18.5 [5.4] 12.1 [3.5]	17.8 [5.2] 10.9 [3.2]	17 [5] 9.7 [2.8]	17.2 [5.1] 14.4 [4.2]	16.5 [4.8] 13 [3.8]	15.9 [4.6] 11.6 [3.4]	16.1 [4.7] 16.1 [4.7]	15.5 [4.5] 14.7 [4.3]	14.8 [4.3] 13.1 [3.8]	15.6 [4.6] 15.6 [4.6]	15 [4.4] 15 [4.4]	14.4 [4.2] 13.7 [4]	15.2 [4.5] 15.2 [4.5]	14.6 [4.3] 14.6 [4.3]	14 [4.1] 14 [4.1]
115°F [46.1°C]	Total BTUH [kW] Sens BTUH [kW] Power	17.9 [5.2] 11.7 [3.4]	17.1 [5] 10.5 [3.1]	16.4 [4.8] 9.4 [2.8]	16.6 [4.9] 14 [4.1]	15.9 [4.7] 12.6 [3.7]	15.3 [4.5] 11.3 [3.3]	15.5 [4.5] 15.5 [4.5]	14.8 [4.3] 14.3 [4.2]	14.2 [4.2] 12.8 [3.7]	15 [4.4] 15 [4.4]	14.4 [4.2] 14.4 [4.2]	13.8 [4] 13.3 [3.9]	14.6 [4.3] 14.6 [4.3]	14 [4.1] 14 [4.1]	13.4 [3.9] 13.4 [3.9]
120°F [48.9°C]	Total BTUH [kW] Sens BTUH [kW] Power	17.2 [5] 11.2 [3.3]	16.5 [4.8] 10.1 [3]	15.8 [4.6] 9 [2.7]	15.9 [4.7] 13.6 [4]	15.3 [4.5] 12.2 [3.6]	14.7 [4.3] 10.9 [3.2]	14.8 [4.3] 14.8 [4.3]	14.2 [4.2] 13.9 [4.1]	13.6 [4] 12.4 [3.6]	14.3 [4.2] 14.3 [4.2]	13.7 [4] 13.7 [4]	13.2 [3.9] 13 [3.8]	13.9 [4.1] 13.9 [4.1]	13.3 [3.9] 13.3 [3.9]	12.8 [3.7] 12.8 [3.7]
125°F [51.7°C]	Total BTUH [kW] Sens BTUH [kW] Power	16.5 [4.8] 10.8 [3.2]	15.8 [4.6] 9.7 [2.8]	15.2 [4.4] 8.7 [2.5]	15.2 [4.5] 13.1 [3.8]	14.6 [4.3] 11.8 [3.5]	14 [4.1] 10.6 [3.1]	14.1 [4.1] 14 [4.1]	13.5 [4] 13.5 [4]	13 [3.8] 12.1 [3.5]	13.6 [4] 13.6 [4]	13.1 [3.8] 13.1 [3.8]	12.5 [3.7] 12.5 [3.7]	13.2 [3.9] 13.2 [3.9]	12.7 [3.7] 12.7 [3.7]	12.1 [3.6] 12.1 [3.6]

DR — Depression ratio Total — Total capacity x 1000 BTUH  
 dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].  
 wBE — Entering air wet bulb Power — KW input  
 Power is for compressor only.

COOLING PERFORMANCE DATA - VA1424AJ1+ VHT2417STAN

Outdoor Dry Bulb Temperature	wbE CFM [L/s]	Entering Indoor Air @ 80°F [26.7°C] dbE ①															
		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			61°F [16.1°C]			59°F [15.0°C]			
		900 [425]	800 [378]	700 [330]	900 [425]	800 [378]	700 [330]	900 [425]	800 [378]	700 [330]	900 [425]	800 [378]	700 [330]	900 [425]	800 [378]	700 [330]	
DR ①		0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08	
75°F [23.9°C]	Total BTUH [kW] Sens BTUH [kW] Power	29.4 [8.6] 17.9 [5.2] 1.3	28.7 [8.4] 16.9 [5] 1.3	28.1 [8.2] 15.9 [4.7] 1.3	27.7 [8.1] 20.8 [6.1] 1.4	27.1 [7.9] 19.7 [5.8] 1.3	26.4 [7.7] 18.5 [5.4] 1.3	26.1 [7.6] 23.6 [6.9] 1.4	25.5 [7.5] 22.3 [6.5] 1.3	24.9 [7.3] 21 [6.2] 1.3	24.6 [7.2] 24.6 [7.2] 1.4	24.2 [7.1] 23.6 [6.9] 1.3	24.2 [7.1] 22.2 [6.5] 1.3	24.6 [7.2] 24.6 [7.2] 1.4	24.7 [7.3] 23.6 [6.9] 1.3	24.2 [7.1] 22.2 [6.5] 1.3	23.5 [6.9] 23.4 [6.9] 1.3
80°F [26.7°C]	Total BTUH [kW] Sens BTUH [kW] Power	28.7 [8.4] 17.6 [5.2] 1.4	28.1 [8.2] 16.6 [4.9] 1.4	27.4 [8] 15.7 [4.6] 1.4	27 [7.9] 20.5 [6] 1.4	26.4 [7.7] 19.4 [5.7] 1.4	25.8 [7.6] 18.3 [5.3] 1.4	25.4 [7.4] 23.3 [6.8] 1.4	24.8 [7.3] 22 [6.5] 1.4	24.3 [7.1] 20.7 [6.1] 1.4	24.6 [7.2] 24.6 [7.2] 1.4	24.1 [7.1] 23.3 [6.8] 1.4	24.1 [7.1] 21.9 [6.4] 1.4	24.6 [7.2] 24.6 [7.2] 1.4	24.1 [7.1] 23.3 [6.8] 1.4	23.5 [6.9] 23.4 [6.9] 1.4	22.9 [6.7] 22.9 [6.7] 1.4
85°F [29.4°C]	Total BTUH [kW] Sens BTUH [kW] Power	28 [8.2] 17.3 [5.1] 1.5	27.4 [8] 16.3 [4.8] 1.5	26.8 [7.9] 15.4 [4.5] 1.5	26.3 [7.7] 20.2 [5.9] 1.5	25.7 [7.5] 19.1 [5.6] 1.5	25.2 [7.4] 18 [5.3] 1.5	24.7 [7.2] 23 [6.7] 1.5	24.2 [7.1] 21.7 [6.4] 1.5	23.6 [6.9] 20.4 [6] 1.5	24 [7] 24 [7] 1.5	23.4 [6.9] 22.8 [6.7] 1.5	23.4 [6.9] 21.6 [6.3] 1.5	24 [7] 24 [7] 1.5	23.2 [6.8] 23.2 [6.8] 1.5	22.7 [6.7] 22.7 [6.7] 1.5	22.2 [6.5] 22.2 [6.5] 1.5
90°F [32.2°C]	Total BTUH [kW] Sens BTUH [kW] Power	27.4 [8] 17 [5] 1.6	26.7 [7.8] 16.6 [4.9] 1.7	26.1 [7.7] 15.1 [4.4] 1.6	25.6 [7.5] 19.9 [5.8] 1.6	25.1 [7.3] 18.8 [5.5] 1.6	24.5 [7.2] 17.7 [5.2] 1.6	24 [7] 22.7 [6.6] 1.6	23.5 [6.9] 21.4 [6.3] 1.6	23 [6.7] 20.2 [5.9] 1.6	23.3 [6.8] 23.3 [6.8] 1.6	22.8 [6.7] 22.7 [6.6] 1.6	22.8 [6.7] 21.4 [6.3] 1.6	23.3 [6.8] 23.3 [6.8] 1.6	22.6 [6.6] 22.6 [6.6] 1.6	22.1 [6.5] 22.1 [6.5] 1.6	21.6 [6.3] 21.6 [6.3] 1.6
95°F [35.0°C]	Total BTUH [kW] Sens BTUH [kW] Power	26.7 [7.8] 16.6 [4.9] 1.7	26.1 [7.6] 15.7 [4.6] 1.7	25.5 [7.5] 14.8 [4.3] 1.7	24.9 [7.3] 19.6 [5.7] 1.7	24.4 [7.1] 18.5 [5.4] 1.7	23.8 [7] 17.4 [5.1] 1.7	23.3 [6.8] 22.3 [6.5] 1.7	22.8 [6.7] 21.1 [6.2] 1.7	22.3 [6.5] 19.9 [5.8] 1.7	22.6 [6.6] 22.6 [6.6] 1.8	22.1 [6.5] 22.1 [6.5] 1.7	22.1 [6.5] 21.1 [6.2] 1.7	22.6 [6.6] 21.9 [6.4] 1.8	21.9 [6.4] 21.9 [6.4] 1.7	21.4 [6.3] 21.4 [6.3] 1.7	20.9 [6.1] 20.9 [6.1] 1.7
100°F [37.8°C]	Total BTUH [kW] Sens BTUH [kW] Power	25.9 [7.6] 16.3 [4.8] 1.9	25.4 [7.4] 15.4 [4.5] 1.8	24.8 [7.3] 14.5 [4.3] 1.8	24.2 [7.1] 19.2 [5.6] 1.9	23.7 [6.9] 18.2 [5.3] 1.8	23.1 [6.8] 17.1 [5] 1.8	22.6 [6.6] 22 [6.5] 1.9	22.1 [6.5] 20.8 [6.1] 1.8	21.6 [6.3] 19.6 [5.7] 1.8	21.9 [6.4] 21.9 [6.4] 1.9	21.4 [6.3] 21.4 [6.3] 1.8	21.4 [6.3] 20.8 [6.1] 1.8	21.1 [6.2] 21.1 [6.2] 1.9	21.1 [6.2] 21.1 [6.2] 1.9	20.7 [6.1] 20.7 [6.1] 1.8	20.2 [5.9] 20.2 [5.9] 1.8
105°F [40.6°C]	Total BTUH [kW] Sens BTUH [kW] Power	25.2 [7.4] 16 [4.7] 2	24.7 [7.2] 15.1 [4.4] 2	24.1 [7.1] 14.2 [4.2] 1.9	23.5 [6.9] 18.9 [5.5] 2	23 [6.7] 17.9 [5.2] 2	22.5 [6.6] 16.8 [4.9] 1.9	21.9 [6.4] 21.7 [6.4] 2	21.4 [6.3] 20.5 [6] 2	20.9 [6.1] 19.3 [5.7] 1.9	21.1 [6.2] 21.1 [6.2] 2	20.7 [6.1] 20.7 [6.1] 2	20.7 [6.1] 20.2 [5.9] 1.9	20.4 [6] 20.4 [6] 2	20.4 [6] 20.4 [6] 2	20 [5.9] 20 [5.9] 2	19.5 [5.7] 19.5 [5.7] 2
110°F [43.3°C]	Total BTUH [kW] Sens BTUH [kW] Power	24.5 [7.2] 15.7 [4.6] 2.1	24 [7] 14.8 [4.3] 2.1	23.4 [6.9] 13.9 [4.1] 2.1	22.8 [6.7] 18.6 [5.4] 2.1	22.3 [6.5] 17.6 [5.1] 2.1	21.8 [6.4] 16.5 [4.8] 2.1	21.2 [6.2] 21.2 [6.2] 2.1	20.7 [6.1] 20.2 [5.9] 2.1	20.2 [5.9] 19 [5.6] 2.1	20.4 [6] 20.4 [6] 2.1	20 [5.8] 20 [5.8] 2.1	20 [5.8] 19.5 [5.7] 2.1	19.7 [5.8] 19.7 [5.8] 2.1	19.7 [5.8] 19.7 [5.8] 2.1	19.3 [5.6] 19.3 [5.6] 2.1	18.8 [5.5] 18.8 [5.5] 2.1
115°F [46.1°C]	Total BTUH [kW] Sens BTUH [kW] Power	23.8 [7] 15.3 [4.5] 2.2	23.2 [6.8] 14.5 [4.2] 2.2	22.7 [6.7] 13.6 [4] 2.2	22 [6.5] 18.2 [5.3] 2.2	21.5 [6.3] 17.2 [5.1] 2.2	21 [6.2] 16.2 [4.8] 2.2	20.4 [6] 20.4 [6] 2.2	20 [5.9] 19.9 [5.8] 2.2	19.5 [5.7] 18.7 [5.5] 2.2	19.7 [5.8] 19.7 [5.8] 2.2	19.2 [5.6] 19.2 [5.6] 2.2	19.2 [5.6] 18.8 [5.5] 2.2	19 [5.6] 19 [5.6] 2.2	19 [5.6] 19 [5.6] 2.2	18.5 [5.4] 18.5 [5.4] 2.2	18.1 [5.3] 18.1 [5.3] 2.2
120°F [48.9°C]	Total BTUH [kW] Sens BTUH [kW] Power	23 [6.7] 15 [4.4] 2.4	22.5 [6.6] 14.2 [4.2] 2.4	22 [6.4] 13.3 [3.9] 2.3	21.3 [6.2] 17.9 [5.2] 2.4	20.8 [6.1] 16.9 [5] 2.4	20.3 [6] 15.9 [4.7] 2.3	19.7 [5.8] 19.7 [5.8] 2.4	19.2 [5.6] 19.2 [5.6] 2.4	18.8 [5.5] 18.4 [5.4] 2.3	18.9 [5.5] 18.9 [5.5] 2.4	18.5 [5.4] 18.5 [5.4] 2.4	18.5 [5.4] 18.1 [5.3] 2.3	18.2 [5.3] 18.2 [5.3] 2.4	18.2 [5.3] 18.2 [5.3] 2.4	17.8 [5.2] 17.8 [5.2] 2.4	17.4 [5.1] 17.4 [5.1] 2.3
125°F [51.7°C]	Total BTUH [kW] Sens BTUH [kW] Power	22.2 [6.5] 14.7 [4.3] 2.5	21.7 [6.4] 13.8 [4.1] 2.5	21.2 [6.2] 13 [3.8] 2.5	20.5 [6] 17.6 [5.2] 2.5	20.1 [5.9] 16.6 [4.9] 2.5	19.6 [5.7] 15.6 [4.6] 2.5	18.9 [5.5] 18.9 [5.5] 2.5	18.5 [5.4] 18.5 [5.4] 2.5	18.1 [5.3] 18.1 [5.3] 2.5	18.2 [5.3] 18.2 [5.3] 2.5	17.8 [5.2] 17.8 [5.2] 2.5	17.8 [5.2] 17.3 [5.1] 2.5	17.4 [5.1] 17.4 [5.1] 2.5	17 [5] 17 [5] 2.5	16.7 [4.9] 16.7 [4.9] 2.5	16.3 [4.7] 16.3 [4.7] 2.5

DR — Depression ratio Total — Total capacity x 1000 BTUH

dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].

wbE — Entering air wet bulb Power — kW input

Power is for compressor only.

COOLING PERFORMANCE DATA - VA1430AJ1+VH1T3617STAN

75°F [23.9°C]	75°F [23.9°C]	Entering Indoor Air @ 80°F [26.7°C] dbE ①															
		67°F [19.4°C]				63°F [17.2°C]				61°F [16.1°C]				59°F [15.0°C]			
		1100 [519]	1000 [472]	950 [448]	0.13	1100 [519]	1000 [472]	950 [448]	0.09	1100 [519]	1000 [472]	950 [448]	0.11	1100 [519]	1000 [472]	950 [448]	0.13
Total BTUH [kW] Sens BTUH [kW] Power	35.5 [10.4] 21.1 [6.2] 1.6	34.9 [10.2] 20.2 [5.9] 1.6	34.5 [10.1] 19.7 [5.8] 1.6	32.9 [9.6] 23.3 [6.8] 1.6	32.1 [9.4] 27.6 [8.1] 1.6	31.5 [9.2] 26.3 [7.7] 1.6	31.2 [9.1] 25.7 [7.5] 1.6	30.9 [9] 27.2 [8] 1.6	30.7 [9] 28.5 [8.3] 1.6	30.5 [8.9] 26.2 [7.7] 1.7	30.1 [8.8] 27 [7.9] 1.7	29.9 [8.8] 26.4 [7.7] 1.7	29.6 [8.7] 27.6 [8.1] 1.7	29.4 [8.6] 27.2 [8] 1.6	29.2 [8.5] 26.6 [7.8] 1.6	29.1 [8.5] 26.6 [7.8] 1.6	28.9 [8.4] 26.6 [7.8] 1.6
Total BTUH [kW] Sens BTUH [kW] Power	34.7 [10.2] 21 [6.1] 1.7	34.1 [10] 20 [5.9] 1.7	33.8 [9.9] 19.6 [5.7] 1.7	32.9 [9.6] 24.8 [7.3] 1.7	32.1 [9.4] 24.6 [7.2] 1.8	31.5 [9.2] 23.5 [6.9] 1.8	31.2 [9.2] 22.9 [6.7] 1.8	30.8 [9] 23.7 [6.9] 1.7	30.5 [8.9] 23.1 [6.8] 1.7	30.3 [9] 22.7 [6.6] 1.7	30.1 [8.8] 22.7 [6.6] 1.7	29.9 [8.8] 22.7 [6.6] 1.7	29.7 [8.7] 22.7 [6.6] 1.7	29.6 [8.7] 22.7 [6.6] 1.7	29.4 [8.6] 22.7 [6.6] 1.7	29.3 [8.6] 22.7 [6.6] 1.7	29.1 [8.5] 22.7 [6.6] 1.7
Total BTUH [kW] Sens BTUH [kW] Power	33.2 [9.7] 20.5 [6] 2	32.6 [9.5] 19.6 [5.7] 1.9	32.3 [9.5] 19.1 [5.6] 1.9	30.5 [8.9] 24.3 [7.1] 1.9	29.7 [8.7] 23.2 [6.8] 1.9	29.2 [8.6] 22.9 [6.7] 1.9	28.9 [8.5] 22.8 [6.7] 1.9	28.8 [8.5] 22.8 [6.7] 1.9	28.7 [8.5] 22.8 [6.7] 1.9	28.6 [8.4] 22.8 [6.7] 1.9	28.5 [8.4] 22.8 [6.7] 1.9	28.4 [8.4] 22.8 [6.7] 1.9	28.3 [8.3] 22.8 [6.7] 1.9	28.2 [8.3] 22.8 [6.7] 1.9	28.1 [8.2] 22.8 [6.7] 1.9	28.0 [8.2] 22.8 [6.7] 1.9	27.9 [8.2] 22.8 [6.7] 1.9
Total BTUH [kW] Sens BTUH [kW] Power	31.5 [9.2] 19.9 [5.8] 2.2	30.9 [9.1] 19 [5.6] 2.2	30.7 [9] 18.5 [5.4] 2.2	29.6 [8.7] 23.7 [6.9] 2.2	28.1 [8.2] 22.2 [6.2] 2.2	27.6 [8.1] 21.7 [6.1] 2.2	27.3 [8] 21.4 [6.1] 2.2	27.2 [8] 21.4 [6.1] 2.2	27.1 [8] 21.4 [6.1] 2.2	27.0 [8] 21.4 [6.1] 2.2	26.9 [8] 21.4 [6.1] 2.2	26.8 [8] 21.4 [6.1] 2.2	26.7 [8] 21.4 [6.1] 2.2	26.6 [8] 21.4 [6.1] 2.2	26.5 [8] 21.4 [6.1] 2.2	26.4 [8] 21.4 [6.1] 2.2	26.3 [8] 21.4 [6.1] 2.2
Total BTUH [kW] Sens BTUH [kW] Power	30.6 [9] 19.5 [5.7] 2.3	30.1 [8.8] 18.6 [5.5] 2.3	29.8 [8.7] 18.2 [5.3] 2.3	28.8 [8.4] 23.3 [6.8] 2.3	27.2 [8] 21.8 [6.4] 2.3	26.7 [8] 20.8 [6.0] 2.3	26.6 [8] 20.8 [6.0] 2.3	26.5 [8] 20.8 [6.0] 2.3	26.4 [8] 20.8 [6.0] 2.3	26.3 [8] 20.8 [6.0] 2.3	26.2 [8] 20.8 [6.0] 2.3	26.1 [8] 20.8 [6.0] 2.3	26.0 [8] 20.8 [6.0] 2.3	25.9 [8] 20.8 [6.0] 2.3	25.8 [8] 20.8 [6.0] 2.3	25.7 [8] 20.8 [6.0] 2.3	25.6 [8] 20.8 [6.0] 2.3
Total BTUH [kW] Sens BTUH [kW] Power	29.8 [8.7] 19.1 [5.6] 2.5	29.2 [8.6] 18.3 [5.4] 2.4	29 [8.5] 17.8 [5.2] 2.4	27.9 [8.2] 23 [6.7] 2.5	26.3 [7.7] 21.4 [6.3] 2.4	25.6 [7.5] 20.4 [6.0] 2.4	25.5 [7.5] 20.4 [6.0] 2.4	25.4 [7.5] 20.4 [6.0] 2.4	25.3 [7.5] 20.4 [6.0] 2.4	25.2 [7.5] 20.4 [6.0] 2.4	25.1 [7.5] 20.4 [6.0] 2.4	25.0 [7.5] 20.4 [6.0] 2.4	24.9 [7.5] 20.4 [6.0] 2.4	24.8 [7.5] 20.4 [6.0] 2.4	24.7 [7.5] 20.4 [6.0] 2.4	24.6 [7.5] 20.4 [6.0] 2.4	24.5 [7.5] 20.4 [6.0] 2.4
Total BTUH [kW] Sens BTUH [kW] Power	28.9 [8.5] 18.7 [5.5] 2.6	28.4 [8.3] 17.9 [5.2] 2.6	28.1 [8.2] 17.5 [5.1] 2.6	26.5 [7.8] 21.5 [6.3] 2.6	25.5 [7.5] 21.6 [6.3] 2.6	24.8 [7.3] 20.6 [6] 2.6	24.7 [7.3] 20.6 [6] 2.6	24.6 [7.3] 20.6 [6] 2.6	24.5 [7.3] 20.6 [6] 2.6	24.4 [7.3] 20.6 [6] 2.6	24.3 [7.3] 20.6 [6] 2.6	24.2 [7.3] 20.6 [6] 2.6	24.1 [7.3] 20.6 [6] 2.6	24.0 [7.3] 20.6 [6] 2.6	23.9 [7.3] 20.6 [6] 2.6	23.8 [7.3] 20.6 [6] 2.6	23.7 [7.3] 20.6 [6] 2.6
Total BTUH [kW] Sens BTUH [kW] Power	28 [8.2] 18.3 [5.4] 2.8	27.5 [8] 17.4 [5.1] 2.7	27.2 [8] 17 [5] 2.7	25.6 [7.5] 21.1 [6.2] 2.7	24.5 [7.2] 20.6 [6] 2.7	23.9 [7] 20.6 [6] 2.7	23.8 [7] 20.6 [6] 2.7	23.7 [7] 20.6 [6] 2.7	23.6 [7] 20.6 [6] 2.7	23.5 [6.9] 20.6 [6] 2.7	23.4 [6.9] 20.6 [6] 2.7	23.3 [6.8] 20.6 [6] 2.7	23.2 [6.8] 20.6 [6] 2.7	23.1 [6.8] 20.6 [6] 2.7	23.0 [6.8] 20.6 [6] 2.7	22.9 [6.8] 20.6 [6] 2.7	22.8 [6.7] 20.6 [6] 2.7
Total BTUH [kW] Sens BTUH [kW] Power	27 [7.9] 17.8 [5.2] 2.9	26.5 [7.8] 17 [5] 2.9	26.3 [7.7] 16.6 [4.9] 2.9	24.7 [7.2] 20.6 [6] 2.9	23.6 [6.9] 20.2 [5.9] 2.9	23.3 [6.8] 20.2 [5.9] 2.9	23.2 [6.8] 20.2 [5.9] 2.9	23.1 [6.8] 20.2 [5.9] 2.9	23.0 [6.8] 20.2 [5.9] 2.9	22.9 [6.8] 20.2 [5.9] 2.9	22.8 [6.8] 20.2 [5.9] 2.9	22.7 [6.8] 20.2 [5.9] 2.9	22.6 [6.8] 20.2 [5.9] 2.9	22.5 [6.8] 20.2 [5.9] 2.9	22.4 [6.8] 20.2 [5.9] 2.9	22.3 [6.8] 20.2 [5.9] 2.9	22.2 [6.8] 20.2 [5.9] 2.9

DR — Depression ratio Total — Total capacity x 1000 BTUH  
 dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].  
 wBE — Entering air wet bulb Power — kW input  
 Power is for compressor only.

**COOLING PERFORMANCE DATA - VA1436AJ1+VH1T3617STAN**

wBE		Entering Indoor Air @ 80°F [26.7°C] dbE ①														
		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			61°F [16.1°C]			59°F [15.0°C]		
CFM [L/s]		1250 [590]	1200 [566]	1150 [543]	1250 [590]	1200 [566]	1150 [543]	1250 [590]	1200 [566]	1150 [543]	1250 [590]	1200 [566]	1150 [543]	1250 [590]	1200 [566]	1150 [543]
DR ①		0.12	0.12	0.11	0.12	0.12	0.11	0.12	0.12	0.11	0.12	0.12	0.11	0.12	0.12	0.11
75°F [23.9°C]	Total BTUH [kW]	42.3 [12.4]	41.9 [12.3]	41.6 [12.2]	40.1 [11.7]	39.8 [11.7]	39.5 [11.6]	38 [11.1]	37.7 [11.1]	37.4 [11.1]	37 [10.9]	36.8 [10.8]	36.5 [10.7]	36.1 [10.6]	35.9 [10.5]	35.6 [10.4]
	Sens BTUH [kW] Power	25.5 [7.5] 2	25 [7.3] 2	24.6 [7.2] 2	29.6 [8.7] 2	29 [8.5] 2	28.4 [8.3] 2	33.3 [9.8] 2	33 [9.7] 2	32.7 [9.6] 2	32.1 [9.4] 2	35.1 [10.3] 2	34.4 [10.1] 2	33.7 [9.9] 1.9	33.9 [10.5] 2	35.9 [10.5] 2
80°F [26.7°C]	Total BTUH [kW]	41.5 [12.2]	41.2 [12.1]	40.9 [12]	39.3 [11.5]	39 [11.4]	38.7 [11.3]	37.2 [10.9]	36.9 [10.8]	36.7 [10.7]	36.3 [10.6]	36 [10.5]	35.7 [10.5]	35.4 [10.4]	35.1 [10.3]	34.9 [10.2]
	Sens BTUH [kW] Power	25.2 [7.4] 2.1	24.7 [7.2] 2.1	24.2 [7.1] 2.1	29.2 [8.6] 2.1	28.7 [8.4] 2.1	28.1 [8.2] 2.1	33 [9.7] 2.1	32.4 [9.5] 2.1	32 [9.4] 2.1	31.8 [9.3] 2.1	34.7 [10.2] 2.1	34 [10] 2.1	33.4 [9.8] 2.1	35.1 [10.3] 2.1	35.4 [10.4] 2.1
85°F [29.4°C]	Total BTUH [kW]	40.7 [11.9]	40.4 [11.8]	40.1 [11.7]	38.5 [11.3]	38.2 [11.2]	37.9 [11.1]	36.4 [10.7]	36.1 [10.6]	35.9 [10.5]	35.5 [10.4]	35.2 [10.3]	34.9 [10.2]	34.6 [10.1]	34.3 [10.1]	34.1 [10]
	Sens BTUH [kW] Power	24.8 [7.3] 2.2	24.4 [7.1] 2.2	23.9 [7] 2.2	28.9 [8.5] 2.2	28.3 [8.3] 2.2	27.8 [8.1] 2.2	32.7 [9.6] 2.2	32 [9.4] 2.2	31.4 [9.2] 2.2	31.4 [9.2] 2.2	34.4 [10.1] 2.2	33.7 [9.9] 2.2	34.6 [10.1] 2.2	34.3 [10.1] 2.2	34.6 [10.1] 2.2
90°F [32.2°C]	Total BTUH [kW]	39.8 [11.7]	39.5 [11.6]	39.2 [11.5]	37.6 [11.1]	37.4 [10.9]	37.1 [10.9]	35.6 [10.4]	35.3 [10.3]	35 [10.3]	34.6 [10.1]	34.3 [10.1]	34 [10]	33.7 [9.9]	33.5 [9.8]	33.2 [9.7]
	Sens BTUH [kW] Power	24.5 [7.2] 2.4	24 [7] 2.3	23.5 [6.9] 2.3	28.5 [8.3] 2.4	28 [8.2] 2.3	27.4 [8] 2.3	32.3 [9.5] 2.3	31.7 [9.3] 2.3	31 [9.1] 2.3	31 [9.1] 2.3	34 [10] 2.3	33.4 [9.8] 2.3	33.7 [9.9] 2.3	33.5 [9.8] 2.3	33.2 [9.7] 2.3
95°F [35.0°C]	Total BTUH [kW]	38.9 [11.4]	38.6 [11.3]	38.3 [11.2]	36.7 [10.8]	36.5 [10.7]	36.2 [10.6]	34.7 [10.2]	34.4 [10.1]	34.1 [10]	33.7 [9.9]	33.4 [9.8]	33.2 [9.7]	32.8 [9.6]	32.6 [9.5]	32.3 [9.5]
	Sens BTUH [kW] Power	24.1 [7.1] 2.5	23.6 [6.9] 2.5	23.1 [6.8] 2.5	28.1 [8.2] 2.5	27.6 [8.1] 2.5	27 [7.9] 2.5	31.9 [9.3] 2.5	31.3 [9.2] 2.5	30.7 [9] 2.5	30.7 [9] 2.5	33.6 [9.8] 2.5	33 [9.7] 2.5	32.8 [9.6] 2.5	32.6 [9.5] 2.5	32.8 [9.6] 2.5
100°F [37.8°C]	Total BTUH [kW]	38 [11.1]	37.7 [11]	37.4 [11]	35.8 [10.5]	35.5 [10.4]	35.2 [10.3]	33.7 [9.9]	33.5 [9.8]	33.2 [9.7]	32.8 [9.6]	32.5 [9.5]	32.3 [9.5]	31.9 [9.3]	31.6 [9.3]	31.4 [9.2]
	Sens BTUH [kW] Power	23.6 [6.9] 2.7	23.2 [6.8] 2.6	22.7 [6.7] 2.6	27.7 [8.1] 2.6	27.1 [8] 2.6	26.6 [7.8] 2.6	31.4 [9.2] 2.6	30.8 [9] 2.6	30.2 [8.9] 2.6	30.2 [8.9] 2.6	32.8 [9.6] 2.6	32.5 [9.5] 2.6	31.9 [9.4] 2.6	31.6 [9.3] 2.6	31.9 [9.3] 2.6
105°F [40.6°C]	Total BTUH [kW]	37 [10.8]	36.7 [10.8]	36.4 [10.7]	34.8 [10.2]	34.5 [10.1]	34.3 [10]	32.7 [9.6]	32.5 [9.5]	32.2 [9.4]	31.8 [9.3]	31.5 [9.2]	31.3 [9.2]	30.9 [9]	30.6 [9]	30.4 [8.9]
	Sens BTUH [kW] Power	23.2 [6.8] 2.8	22.7 [6.7] 2.8	22.3 [6.5] 2.8	27.2 [8] 2.8	26.7 [7.8] 2.8	26.2 [7.7] 2.8	31 [9.1] 2.8	30.4 [8.9] 2.8	29.8 [8.7] 2.8	29.8 [8.7] 2.8	31.8 [9.3] 2.8	31.5 [9.2] 2.8	31.3 [9.2] 2.8	30.9 [9] 2.8	30.6 [9] 2.8
110°F [43.3°C]	Total BTUH [kW]	36 [10.5]	35.7 [10.5]	35.4 [10.4]	33.8 [9.9]	33.5 [9.8]	33.3 [9.7]	31.7 [9.3]	31.4 [9.2]	31.2 [9.1]	30.7 [9]	30.5 [8.9]	30.3 [8.9]	29.8 [8.7]	29.6 [8.7]	29.4 [8.6]
	Sens BTUH [kW] Power	22.7 [6.7] 3	22.3 [6.5] 3	21.9 [6.4] 3	26.8 [7.8] 3	26.2 [7.7] 3	25.7 [7.5] 3	30.5 [8.9] 3	29.9 [8.8] 3	29.4 [8.6] 3	29.4 [8.6] 3	30.7 [9] 3	30.5 [8.9] 3	30.3 [8.9] 3	29.8 [8.7] 3	29.6 [8.7] 3
115°F [46.1°C]	Total BTUH [kW]	34.9 [10.2]	34.6 [10.1]	34.3 [10.1]	32.7 [9.6]	32.4 [9.5]	32.2 [9.4]	30.6 [9]	30.4 [8.9]	30.1 [8.8]	29.6 [8.7]	29.4 [8.6]	29.2 [8.6]	28.8 [8.4]	28.5 [8.4]	28.3 [8.3]
	Sens BTUH [kW] Power	22.2 [6.5] 3.2	21.8 [6.4] 3.2	21.4 [6.3] 3.1	26.3 [7.7] 3.2	25.8 [7.5] 3.1	25.3 [7.4] 3.1	30 [8.8] 3.1	29.5 [8.6] 3.1	28.9 [8.5] 3.1	28.9 [8.5] 3.1	29.6 [8.7] 3.1	29.4 [8.6] 3.1	29.2 [8.6] 3.1	28.8 [8.4] 3.1	28.5 [8.4] 3.1
120°F [48.9°C]	Total BTUH [kW]	33.7 [9.9]	33.5 [9.8]	33.2 [9.7]	31.5 [9.2]	31.3 [9.2]	31.1 [9.1]	29.5 [8.6]	29.3 [8.6]	29 [8.5]	28.5 [8.4]	28.3 [8.3]	28.1 [8.2]	27.6 [8.1]	27.4 [8]	27.2 [8]
	Sens BTUH [kW] Power	21.7 [6.4] 3.4	21.3 [6.2] 3.3	20.9 [6.1] 3.3	25.7 [7.5] 3.3	25.3 [7.4] 3.3	24.8 [7.3] 3.3	29.5 [8.6] 3.3	29 [8.5] 3.3	28.4 [8.3] 3.3	28.4 [8.3] 3.3	28.5 [8.4] 3.3	28.3 [8.3] 3.3	27.6 [8.1] 3.3	27.4 [8] 3.3	27.2 [8] 3.3
125°F [51.7°C]	Total BTUH [kW]	32.6 [9.5]	32.3 [9.5]	32.1 [9.4]	30.4 [8.9]	30.1 [8.8]	29.9 [8.8]	28.3 [8.3]	28.1 [8.2]	27.9 [8.2]	27.3 [8]	27.1 [8]	26.9 [7.9]	26.5 [7.8]	26.3 [7.7]	26.1 [7.6]
	Sens BTUH [kW] Power	21.2 [6.2] 3.6	20.8 [6.1] 3.5	20.4 [6] 3.5	25.2 [7.4] 3.5	24.7 [7.2] 3.5	24.2 [7.1] 3.5	28.3 [8.3] 3.5	28.1 [8.2] 3.5	27.9 [8.2] 3.5	27.9 [8.2] 3.5	27.3 [8] 3.5	27.1 [8] 3.5	26.5 [7.8] 3.5	26.3 [7.7] 3.5	26.1 [7.6] 3.5

Outdoor Dry Bulb Temperature

DR — Depression ratio Total — Total capacity x 1000 BTUH

dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].

wBE — Entering air wet bulb Power — KW input

Power is for compressor only.

COOLING PERFORMANCE DATA - VA1442AJ1+VH1T4821 STAN

Outdoor Dry Bulb Temperature	wBE	Entering Indoor Air @ 80°F [26.7°C] dbE ①																			
		71°F [21.7°C]				67°F [19.4°C]				63°F [17.2°C]				61°F [16.1°C]				59°F [15.0°C]			
		1540 [727]	1400 [661]	1190 [562]	1540 [727]	1400 [661]	1190 [562]	1540 [727]	1400 [661]	1190 [562]	1540 [727]	1400 [661]	1190 [562]	1540 [727]	1400 [661]	1190 [562]	1540 [727]	1400 [661]	1190 [562]		
75°F [23.9°C]	CFM [L/s] DR ①	0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08	0.13	0.11	0.08		
	Total BTUH [kW]	49.6 [14.5]	48.8 [14.3]	47.4 [13.9]	47.2 [13.8]	46.3 [13.6]	45.1 [13.2]	44.3 [13.0]	44.3 [13.0]	43.1 [12.6]	42.9 [12.6]	42.3 [12.4]	42.2 [12.4]	42.3 [12.4]	42.2 [12.4]	42.3 [12.4]	42.2 [12.4]	42.3 [12.4]	42.2 [12.4]		
	Sens BTUH [kW]	30.2 [8.8]	28.8 [8.5]	26.8 [7.9]	35.4 [10.4]	33.8 [9.9]	39.4 [11.5]	37.6 [11.1]	35 [10.3]	37.6 [11.1]	35 [10.3]	40.9 [12]	40.9 [12]	39.1 [11.5]	36.4 [10.7]	40.3 [11.8]	42.2 [12.4]	40.3 [11.8]	37.5 [11]		
	Power	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3		
80°F [26.7°C]	Total BTUH [kW]	48.6 [14.2]	47.7 [14]	46.4 [13.6]	46.1 [13.5]	45.3 [13.3]	44 [12.9]	43.1 [12.7]	42 [12.3]	43.1 [12.7]	42 [12.3]	42.3 [12.4]	41.2 [12.1]	42.3 [12.4]	41.2 [12.1]	42.3 [12.4]	41.2 [12.1]	42.3 [12.4]	41.2 [12.1]		
	Sens BTUH [kW]	29.8 [8.7]	28.4 [8.3]	26.4 [7.7]	35 [10.2]	33.4 [9.8]	39 [11.4]	37.2 [10.9]	34.6 [10.1]	37.2 [10.9]	34.6 [10.1]	40.5 [11.9]	38.7 [11.3]	38.7 [11.3]	36 [10.5]	41.7 [12.2]	39.9 [11.7]	37.1 [10.9]	37.1 [10.9]		
	Power	2.5	2.4	2.4	2.5	2.4	2.5	2.5	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4		
85°F [29.4°C]	Total BTUH [kW]	47.5 [13.9]	46.6 [13.7]	45.4 [13.3]	45 [13.2]	44.2 [13]	42.9 [12.6]	42.2 [12.4]	41 [12]	42.9 [12.6]	41 [12]	42 [12.3]	41.3 [12.1]	42.3 [12.4]	41.2 [12.1]	42.3 [12.4]	41.2 [12.1]	42.3 [12.4]	41.2 [12.1]		
	Sens BTUH [kW]	29.3 [8.6]	28 [8.2]	26 [7.6]	34.5 [10.1]	33 [9.7]	38.5 [11.3]	36.8 [10.8]	34.2 [10]	38.5 [11.3]	34.2 [10]	40 [11.7]	38.2 [11.2]	38.2 [11.2]	35.6 [10.4]	41.2 [12.1]	39.4 [11.6]	36.7 [10.7]	36.7 [10.7]		
	Power	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6		
90°F [32.2°C]	Total BTUH [kW]	46.4 [13.6]	45.6 [13.4]	44.3 [13]	43.9 [12.9]	43.1 [12.6]	41.8 [12.3]	41.1 [12]	40 [11.7]	43.9 [12.9]	40 [11.7]	40.9 [12]	40.2 [11.8]	40.9 [12]	39.1 [11.5]	40.1 [11.8]	39.4 [11.5]	38.3 [11.2]	38.3 [11.2]		
	Sens BTUH [kW]	28.8 [8.4]	27.5 [8.1]	25.6 [7.5]	34 [10]	32.5 [9.5]	38 [11.1]	36.3 [10.6]	33.8 [9.9]	38.8 [11.4]	33.8 [9.9]	39.5 [11.6]	37.8 [11.1]	37.8 [11.1]	35.1 [10.3]	40.1 [11.8]	39 [11.4]	36.2 [10.6]	36.2 [10.6]		
	Power	2.8	2.8	2.7	2.8	2.7	2.8	2.7	2.7	2.7	2.7	2.8	2.7	2.7	2.7	2.8	2.7	2.7	2.7		
95°F [35.0°C]	Total BTUH [kW]	45.3 [13.3]	44.5 [13]	43.2 [12.7]	42.8 [12.5]	42 [12.3]	40.7 [11.9]	40 [11.7]	38.9 [11.4]	42.8 [12.5]	38.9 [11.4]	39.8 [11.7]	39.1 [11.5]	39.8 [11.7]	38 [11.1]	39 [11.4]	38.3 [11.2]	37.2 [10.9]	37.2 [10.9]		
	Sens BTUH [kW]	28.3 [8.3]	27 [7.9]	25.1 [7.4]	33 [9.7]	32 [9.4]	37.5 [11.1]	35.8 [10.5]	33.3 [9.8]	39.5 [11.6]	33.3 [9.8]	39.5 [11.6]	37.3 [10.9]	37.3 [10.9]	34.2 [10.2]	39 [11.4]	38.3 [11.2]	35.8 [10.5]	35.8 [10.5]		
	Power	3	2.9	2.9	3.1	3.1	2.9	2.9	2.9	3.1	3.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9		
100°F [37.8°C]	Total BTUH [kW]	44.1 [12.9]	43.3 [12.7]	42.1 [12.4]	41.6 [12.2]	40.9 [12]	39.5 [11.6]	38.8 [11.4]	37.8 [11.1]	42.1 [12.4]	37.8 [11.1]	38.6 [11.3]	38 [11.1]	38.6 [11.3]	36.9 [10.8]	37.8 [11.1]	37.2 [10.9]	36.1 [10.6]	36.1 [10.6]		
	Sens BTUH [kW]	27.8 [8.1]	26.5 [7.8]	24.7 [7.2]	33 [9.7]	31.5 [9.2]	37 [10.8]	35.3 [10.4]	32.9 [9.6]	39.8 [11.7]	32.9 [9.6]	38.5 [11.3]	36.8 [10.8]	36.8 [10.8]	34.2 [10]	37.8 [11.1]	37.2 [10.9]	35.3 [10.3]	35.3 [10.3]		
	Power	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1		
105°F [40.6°C]	Total BTUH [kW]	42.9 [12.6]	42.2 [12.4]	41 [12]	40.5 [11.9]	39.7 [11.6]	38.4 [11.2]	37.7 [11.1]	36.7 [10.7]	42.9 [12.6]	36.7 [10.7]	37.5 [11.1]	36.8 [10.8]	36.8 [10.8]	35.8 [10.5]	36.7 [10.7]	36 [10.6]	35 [10.3]	35 [10.3]		
	Sens BTUH [kW]	27.2 [8]	26 [7.6]	24.2 [7.1]	32.4 [9.5]	31 [9.1]	36.4 [10.7]	34.8 [10.2]	32.4 [9.5]	39.8 [11.7]	32.4 [9.5]	37.5 [11.1]	36.3 [10.6]	36.3 [10.6]	33.7 [9.9]	36.7 [10.7]	36 [10.6]	34.8 [10.2]	34.8 [10.2]		
	Power	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		
110°F [43.3°C]	Total BTUH [kW]	41.8 [12.2]	41 [12]	39.9 [11.7]	39.3 [11.5]	38.6 [11.3]	37.2 [10.9]	36.5 [10.7]	35.5 [10.4]	41.8 [12.2]	35.5 [10.4]	36.3 [10.6]	35.6 [10.4]	35.6 [10.4]	35.5 [10.4]	35.5 [10.4]	34.8 [10.2]	33.9 [9.9]	33.9 [9.9]		
	Sens BTUH [kW]	26.6 [7.8]	25.5 [7.5]	23.7 [6.9]	31.9 [9.3]	30.4 [8.9]	35.8 [10.5]	34.2 [10]	31.9 [9.3]	39.9 [11.7]	31.9 [9.3]	36.3 [10.6]	35.6 [10.4]	35.6 [10.4]	33.2 [9.7]	35.5 [10.4]	34.8 [10.2]	33.9 [9.9]	33.9 [9.9]		
	Power	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
115°F [46.1°C]	Total BTUH [kW]	40.5 [11.9]	39.8 [11.7]	38.7 [11.4]	38.1 [11.2]	37.4 [11.1]	36 [10.5]	35.3 [10.4]	34.4 [10.1]	40.5 [11.9]	34.4 [10.1]	35.1 [10.3]	34.4 [10.1]	34.4 [10.1]	33.5 [9.8]	34.3 [10]	33.6 [9.9]	32.7 [9.6]	32.7 [9.6]		
	Sens BTUH [kW]	26 [7.6]	24.9 [7.3]	23.1 [6.8]	31.3 [9.2]	29.9 [8.8]	35.2 [10.3]	33.7 [9.9]	31.3 [9.2]	39.8 [11.7]	31.3 [9.2]	35.1 [10.3]	34.4 [10.1]	34.4 [10.1]	32.7 [9.6]	34.3 [10]	33.6 [9.9]	32.7 [9.6]	32.7 [9.6]		
	Power	3.8	3.7	3.7	3.8	3.7	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7		
120°F [48.9°C]	Total BTUH [kW]	39.3 [11.5]	38.6 [11.3]	37.6 [11.1]	36.8 [10.8]	36.2 [10.6]	34.7 [10.2]	34.1 [10]	33.2 [9.7]	39.3 [11.5]	33.2 [9.7]	33.8 [9.9]	33.2 [9.7]	33.2 [9.7]	32.3 [9.5]	33 [9.7]	32.4 [9.5]	31.5 [9.2]	31.5 [9.2]		
	Sens BTUH [kW]	25.4 [7.4]	24.3 [7.1]	22.6 [6.6]	30.6 [9]	29.3 [8.6]	34.6 [10.1]	33.1 [9.7]	30.8 [9]	38.7 [11.4]	30.8 [9]	33.8 [9.9]	33.2 [9.7]	33.2 [9.7]	32.1 [9.4]	33 [9.7]	32.4 [9.5]	31.5 [9.2]	31.5 [9.2]		
	Power	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
125°F [51.7°C]	Total BTUH [kW]	38 [11.1]	37.4 [11]	36.3 [10.7]	35.6 [10.4]	34.9 [10.2]	33.5 [9.8]	32.9 [9.6]	32 [9.4]	38 [11.1]	32 [9.4]	32.6 [9.5]	32 [9.4]	32 [9.4]	31.1 [9.1]	31.8 [9.3]	31.2 [9.1]	30.3 [8.9]	30.3 [8.9]		
	Sens BTUH [kW]	24.8 [7.3]	23.7 [6.9]	22 [6.5]	30 [8.8]	28.7 [8.4]	33.5 [9.8]	32.5 [9.5]	30.2 [8.8]	37.4 [11]	30.2 [8.8]	32.6 [9.5]	32 [9.4]	32 [9.4]	31.1 [9.1]	31.8 [9.3]	31.2 [9.1]	30.3 [8.9]	30.3 [8.9]		
	Power	4.2	4.2	4.1	4.2	4.2	4.2	4.2	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2		

DR — Depression ratio      Total — Total capacity x 1000 BTUH  
 dbE — Entering air dry bulb      Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].  
 wBE — Entering air wet bulb      Power — KW input  
 Power is for compressor only.

COOLING PERFORMANCE DATA - VA1448AJ1+VH1T4821STAN

Outdoor Dry Bulb Temperature	wBE	Entering Indoor Air @ 80°F [26.7°C] dbE ①														
		71°F [21.7°C]			67°F [19.4°C]			63°F [17.2°C]			61°F [16.1°C]			59°F [15.0°C]		
		1650 [779]	1600 [755]	1550 [732]	1650 [779]	1600 [755]	1550 [732]	1650 [779]	1600 [755]	1550 [732]	1650 [779]	1600 [755]	1550 [732]	1650 [779]	1600 [755]	1550 [732]
	CFM [L/s]	0.18	0.18	0.17	0.18	0.18	0.18	0.18	0.17	0.18	0.18	0.17	0.18	0.18	0.17	
	DR ①															
75°F [23.9°C]	Total BTUH [kW]	55.2 [16.2]	54.9 [16.1]	54.6 [16]	52.5 [15.4]	51.9 [15.3]	51.4 [15.1]	50.8 [14.9]	50.2 [14.7]	49.4 [14.5]	48.8 [14.3]	48.3 [14.2]	47.6 [14]	47.1 [13.8]	46.5 [13.6]	
	Sens BTUH [kW]	31.4 [9.2]	30.9 [9.1]	30.5 [8.9]	37.3 [10.9]	36.8 [10.8]	36.4 [10.6]	35.9 [10.5]	42.7 [12.5]	45 [13.2]	43.7 [12.8]	44.6 [13.1]	47 [14.3]	44.4 [13.4]	45.3 [13.3]	
	Power	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	
80°F [26.7°C]	Total BTUH [kW]	54.1 [15.9]	53.8 [15.8]	53.5 [15.7]	51.4 [15.1]	51.1 [15]	50.8 [14.9]	49.2 [14.4]	49.2 [14.4]	48.3 [14.2]	48.6 [14.3]	48.3 [14.2]	47.6 [14]	47.4 [13.9]	47.1 [13.8]	
	Sens BTUH [kW]	31 [9.1]	30.5 [8.9]	30.1 [8.8]	36.9 [10.8]	36.4 [10.7]	35.9 [10.5]	42.3 [12.4]	44.3 [12.4]	44.6 [13.1]	43.3 [12.7]	44.6 [13.1]	46.6 [13.7]	46 [13.5]	45.3 [13.3]	
	Power	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	
85°F [29.4°C]	Total BTUH [kW]	53 [15.5]	52.7 [15.4]	52.4 [15.3]	50.3 [14.7]	49.7 [14.6]	49.7 [14.6]	48.8 [14.4]	48 [14.1]	47.1 [13.8]	46.6 [13.7]	46.5 [13.6]	46.2 [13.6]	46.2 [13.6]	45.9 [13.5]	
	Sens BTUH [kW]	30.5 [8.9]	30.1 [8.8]	29.7 [8.7]	36.5 [10.7]	35.9 [10.5]	35.4 [10.4]	41.8 [12.3]	41.8 [12.3]	44.2 [12.9]	43.5 [12.8]	43.5 [12.8]	46.2 [13.5]	45.5 [13.3]	44.9 [13.1]	
	Power	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
90°F [32.2°C]	Total BTUH [kW]	51.8 [15.2]	51.5 [15.1]	51.2 [15]	49.1 [14.4]	48.8 [14.3]	48.5 [14.2]	46.8 [13.7]	46.8 [13.7]	46 [13.5]	45.4 [13.3]	45.3 [13.3]	45.1 [13.2]	45.1 [13.2]	44.8 [13.1]	
	Sens BTUH [kW]	30 [8.8]	29.6 [8.7]	29.2 [8.6]	36 [10.5]	35.5 [10.4]	35 [10.2]	41.3 [12.1]	41.3 [12.1]	43.7 [12.8]	43.1 [12.6]	43.1 [12.6]	45.1 [13.2]	45.1 [13.2]	44.4 [13]	
	Power	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	
95°F [35.0°C]	Total BTUH [kW]	50.5 [14.8]	50.3 [14.7]	50 [14.6]	47.8 [14]	47.6 [13.9]	47.3 [13.9]	45.6 [13.4]	45.6 [13.4]	44.7 [13.1]	44.5 [13]	44.2 [13]	44.1 [12.9]	43.8 [12.8]	43.6 [12.8]	
	Sens BTUH [kW]	29.5 [8.7]	29.1 [8.5]	28.7 [8.4]	35.5 [10.4]	35 [10.2]	34.4 [10.1]	40.8 [12]	40.8 [12]	43.2 [12.6]	42.5 [12.5]	42.5 [12.5]	44.1 [12.9]	43.8 [12.8]	43.6 [12.8]	
	Power	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	
100°F [37.8°C]	Total BTUH [kW]	49.2 [14.4]	49 [14.3]	48.7 [14.3]	46.5 [13.6]	46.3 [13.6]	46 [13.5]	44.3 [13]	44.3 [13]	43.4 [12.7]	42.9 [12.6]	42.9 [12.6]	42.8 [12.5]	42.5 [12.5]	42.3 [12.4]	
	Sens BTUH [kW]	28.9 [8.5]	28.5 [8.4]	28.1 [8.2]	34.9 [10.2]	34.4 [10.1]	33.9 [9.9]	40.2 [11.8]	40.2 [11.8]	42.6 [12.5]	41.4 [12.1]	41.4 [12.1]	42.8 [12.5]	42.5 [12.5]	42.3 [12.4]	
	Power	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	
105°F [40.6°C]	Total BTUH [kW]	47.9 [14]	47.6 [14]	47.4 [13.9]	45.2 [13.2]	44.9 [13.2]	44.7 [13.1]	42.9 [12.6]	42.9 [12.6]	42.1 [12.3]	41.6 [12.2]	41.6 [12.2]	41.4 [12.1]	41.2 [12.1]	41 [12]	
	Sens BTUH [kW]	28.3 [8.3]	27.9 [8.2]	27.5 [8.1]	34.3 [10]	33.8 [9.9]	33.3 [9.8]	39.6 [11.6]	39.6 [11.6]	42 [12.3]	40.8 [11.9]	40.8 [11.9]	41.4 [12.1]	41.2 [12.1]	41 [12]	
	Power	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
110°F [43.3°C]	Total BTUH [kW]	46.5 [13.6]	46.2 [13.5]	46 [13.5]	43.8 [12.8]	43.5 [12.8]	43.3 [12.7]	41.5 [12.2]	41.5 [12.2]	40.7 [11.9]	40.2 [11.8]	40.2 [11.8]	40 [11.7]	39.8 [11.7]	39.6 [11.6]	
	Sens BTUH [kW]	27.7 [8.1]	27.3 [8]	26.9 [7.9]	33.6 [9.8]	33.1 [9.7]	32.6 [9.6]	39 [11.4]	39 [11.4]	40.7 [11.9]	40.1 [11.8]	40.1 [11.8]	40 [11.7]	39.8 [11.7]	39.6 [11.6]	
	Power	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	
115°F [46.1°C]	Total BTUH [kW]	45 [13.2]	44.8 [13.1]	44.5 [13.1]	42.3 [12.4]	42.1 [12.3]	41.9 [12.3]	40.1 [11.7]	40.1 [11.7]	39.2 [11.5]	38.8 [11.4]	38.8 [11.4]	38.4 [11.2]	38.1 [11.2]	38 [11.2]	
	Sens BTUH [kW]	27 [7.9]	26.6 [7.8]	26.2 [7.7]	32.9 [9.6]	32.4 [9.5]	32 [9.4]	38.3 [11.2]	38.3 [11.2]	39.2 [11.5]	39 [11.4]	39 [11.4]	38.6 [11.3]	38.4 [11.2]	38.1 [11.2]	
	Power	4.2	4.2	4.1	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	
120°F [48.9°C]	Total BTUH [kW]	43.6 [12.8]	43.3 [12.7]	43.1 [12.6]	40.8 [12]	40.6 [11.9]	40.4 [11.8]	38.6 [11.3]	38.6 [11.3]	37.7 [11.1]	37.5 [11]	37.3 [10.9]	37.1 [10.9]	36.9 [10.8]	36.7 [10.7]	
	Sens BTUH [kW]	26.2 [7.7]	25.8 [7.6]	25.5 [7.5]	32.2 [9.4]	31.7 [9.3]	31.2 [9.2]	37.5 [11]	37.5 [11]	37.7 [11.1]	37.5 [11]	37.3 [10.9]	37.1 [10.9]	36.9 [10.8]	36.7 [10.7]	
	Power	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	
125°F [51.7°C]	Total BTUH [kW]	42 [12.3]	41.8 [12.2]	41.5 [12.2]	39.3 [11.5]	39.1 [11.4]	38.8 [11.4]	37 [10.9]	37 [10.9]	36.2 [10.6]	36 [10.5]	35.8 [10.5]	35.5 [10.4]	35.3 [10.4]	35.1 [10.3]	
	Sens BTUH [kW]	25.4 [7.4]	25.1 [7.3]	24.7 [7.2]	31.4 [9.2]	30.9 [9.1]	30.5 [8.9]	36.7 [10.8]	36.7 [10.8]	36.2 [10.6]	36 [10.5]	35.8 [10.5]	35.5 [10.4]	35.3 [10.4]	35.1 [10.3]	
	Power	4.7	4.7	4.7	4.7	4.7	4.6	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.6	

DR — Depression ratio Total — Total capacity x 1000 BTUH

dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].

wBE — Entering air wet bulb Power — kW input

Power is for compressor only.

COOLING PERFORMANCE DATA - VA1460AJ1+VHT16024STAN

Outdoor Dry Bulb Temperature	wBE	Entering Indoor Air @ 80°F [26.7°C] dbE ①																			
		71°F [21.7°C]				67°F [19.4°C]				63°F [17.2°C]				61°F [16.1°C]				59°F [15.0°C]			
		1900 [897]	1600 [755]	1750 [826]	1900 [897]	1600 [755]	1750 [826]	1900 [897]	1600 [755]	1750 [826]	1900 [897]	1600 [755]	1750 [826]	1900 [897]	1600 [755]	1750 [826]	1900 [897]	1600 [755]	1750 [826]	1900 [897]	
	CFM [L/s]	0.14	0.11	0.12	0.14	0.11	0.12	0.14	0.11	0.12	0.14	0.11	0.12	0.14	0.11	0.12	0.14	0.11	0.12	0.14	
75°F [23.9°C]	Total BTUH [kW]	68.2 [20]	66.1 [19.4]	63.3 [18.6]	64.3 [18.9]	62.4 [18.3]	63.3 [18.6]	60.6 [17.8]	58.7 [17.2]	59.7 [17.5]	57.1 [16.7]	58.7 [17.2]	57.1 [16.7]	58.8 [17.2]	57.1 [16.7]	57.9 [17]	57.1 [16.7]	56.3 [16.5]	57.1 [16.7]	56.3 [16.5]	
	Sens BTUH [kW]	38.5 [11.3]	35.6 [10.4]	43.5 [12.8]	45.3 [13.3]	41.8 [12.2]	43.5 [12.8]	51.7 [15.2]	49.7 [14.6]	49.7 [14.6]	52.8 [15.5]	50.7 [14.8]	52.8 [15.5]	54.9 [16.1]	50.7 [14.8]	52.8 [15.5]	50.7 [14.8]	56.4 [16.5]	55.8 [16.4]	55.4 [16.2]	
	Power	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.3	3.3	3.2	3.3	3.3	3.2	3.3	3.2	
80°F [26.7°C]	Total BTUH [kW]	67.4 [19.7]	65.3 [19.1]	62.6 [18.3]	63.6 [18.6]	61.6 [18.1]	62.6 [18.3]	59.8 [17.5]	58.9 [17.3]	58.9 [17.3]	57.2 [16.7]	58.9 [17.3]	57.2 [16.7]	58 [17]	56.3 [16.5]	57.2 [16.7]	56.3 [16.5]	55.5 [16.3]	56.4 [16.5]	55.5 [16.3]	
	Sens BTUH [kW]	38.4 [11.3]	35.5 [10.4]	43.4 [12.7]	45.1 [13.2]	41.7 [12.2]	43.4 [12.7]	51.6 [15.1]	49.6 [14.5]	49.6 [14.5]	52.6 [15.4]	50.5 [14.8]	52.6 [15.4]	54.8 [16]	50.5 [14.8]	52.6 [15.4]	50.5 [14.8]	55.5 [16.3]	54.8 [16]	54.5 [16]	
	Power	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.5	3.5	3.4	3.5	3.5	3.4	3.5	3.4	
85°F [29.4°C]	Total BTUH [kW]	66.4 [19.5]	64.4 [18.9]	61.6 [18.1]	62.6 [18.3]	60.7 [17.8]	61.6 [18.1]	58.9 [17.2]	58 [17]	58 [17]	56.2 [16.5]	57.1 [16.7]	56.2 [16.5]	57.1 [16.7]	55.3 [16.2]	56.2 [16.5]	55.3 [16.2]	54.5 [16]	55.4 [16.2]	54.5 [16]	
	Sens BTUH [kW]	38.1 [11.2]	35.2 [10.3]	43.1 [12.6]	44.9 [13.1]	41.4 [12.1]	43.1 [12.6]	51.3 [15]	49.3 [14.5]	49.3 [14.5]	52.4 [15.4]	50.3 [14.7]	52.4 [15.4]	54.5 [16]	50.3 [14.7]	52.4 [15.4]	50.3 [14.7]	55.4 [16.2]	54.5 [16]	54.5 [16]	
	Power	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.7	3.7	3.6	3.7	3.7	3.6	3.7	3.7	
90°F [32.2°C]	Total BTUH [kW]	65.3 [19.1]	63.3 [18.5]	60.5 [17.7]	61.4 [18]	59.5 [17.4]	60.5 [17.7]	57.7 [16.9]	56.8 [16.6]	56.8 [16.6]	55.1 [16.1]	54.2 [15.9]	55.1 [16.1]	55.9 [16.4]	54.2 [15.9]	55.1 [16.1]	54.2 [15.9]	53.4 [15.6]	54.2 [15.9]	53.4 [15.6]	
	Sens BTUH [kW]	37.7 [11.1]	34.8 [10.2]	42.7 [12.5]	44.5 [13]	41 [12]	42.7 [12.5]	50.9 [14.9]	49 [14.3]	49 [14.3]	52.1 [15.2]	49.9 [14.6]	52.1 [15.2]	54.1 [15.8]	49.9 [14.6]	52.1 [15.2]	49.9 [14.6]	53.4 [15.6]	52.1 [15.2]	52.1 [15.2]	
	Power	4	3.9	3.9	4	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	
95°F [35.0°C]	Total BTUH [kW]	63.9 [18.7]	61.9 [18.2]	59.1 [17.3]	60.1 [17.6]	58.2 [17.1]	59.1 [17.3]	56.3 [16.5]	55.5 [16.3]	55.5 [16.3]	53.7 [15.7]	52.9 [15.5]	53.7 [15.7]	52.9 [15.5]	52.9 [15.5]	52.9 [15.5]	52.9 [15.5]	52.1 [15.3]	52.9 [15.5]	52.1 [15.3]	
	Sens BTUH [kW]	37.2 [10.9]	34.4 [10.1]	42.2 [12.4]	43.9 [12.9]	40.6 [11.9]	42.2 [12.4]	50.4 [14.8]	48.5 [14.2]	48.5 [14.2]	51.5 [15.1]	49.4 [14.5]	51.5 [15.1]	52.9 [15.5]	49.4 [14.5]	51.5 [15.1]	49.4 [14.5]	52.1 [15.3]	52.9 [15.5]	52.1 [15.3]	
	Power	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.2	4.2	4.1	4.2	4.2	4.1	4.2	4.1	
100°F [37.8°C]	Total BTUH [kW]	62.4 [18.3]	60.4 [17.7]	57.6 [16.9]	58.5 [17.1]	56.7 [16.6]	57.6 [16.9]	54.8 [16.1]	54 [15.8]	54 [15.8]	52.2 [15.3]	51.4 [15.1]	52.2 [15.3]	51.4 [15.1]	51.3 [15]	52.2 [15.3]	51.4 [15.1]	50.5 [14.8]	51.3 [15]	50.5 [14.8]	
	Sens BTUH [kW]	36.6 [10.7]	33.8 [9.9]	41.6 [12.2]	43.3 [12.7]	40 [11.7]	41.6 [12.2]	49.7 [14.6]	47.8 [14]	47.8 [14]	50.9 [14.9]	48.8 [14.3]	50.9 [14.9]	48.8 [14.3]	51.3 [15]	50.9 [14.9]	48.8 [14.3]	50.5 [14.8]	51.3 [15]	50.5 [14.8]	
	Power	4.5	4.4	4.4	4.5	4.4	4.4	4.5	4.4	4.4	4.4	4.4	4.4	4.5	4.4	4.4	4.4	4.4	4.4	4.4	
105°F [40.6°C]	Total BTUH [kW]	60.6 [17.8]	58.8 [17.2]	55.9 [16.4]	56.8 [16.6]	55 [16.1]	55.9 [16.4]	53.1 [15.5]	52.2 [15.3]	52.2 [15.3]	50.5 [14.8]	49.7 [14.6]	50.5 [14.8]	49.7 [14.6]	49.6 [14.5]	50.5 [14.8]	49.6 [14.5]	48.8 [14.3]	49.6 [14.5]	48.8 [14.3]	
	Sens BTUH [kW]	35.8 [10.5]	33 [9.7]	40.9 [12]	42.5 [12.5]	39.2 [11.5]	40.9 [12]	49 [14.3]	47.1 [13.8]	47.1 [13.8]	50.1 [14.7]	48.1 [14.1]	50.1 [14.7]	48.1 [14.1]	49.6 [14.5]	50.1 [14.7]	48.1 [14.1]	48.8 [14.3]	49.6 [14.5]	48.1 [14.1]	
	Power	4.8	4.7	4.7	4.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	
110°F [43.3°C]	Total BTUH [kW]	58.7 [17.2]	56.9 [16.7]	54 [15.8]	54.9 [16.1]	53.2 [15.6]	54 [15.8]	51.1 [15]	50.3 [14.8]	50.3 [14.8]	48.6 [14.2]	47.8 [14]	48.6 [14.2]	47.8 [14]	47.7 [14]	48.6 [14.2]	47.7 [14]	46.9 [13.8]	47.7 [14]	46.9 [13.8]	
	Sens BTUH [kW]	34.9 [10.2]	32.2 [9.4]	40 [11.7]	41.6 [12.2]	38.4 [11.3]	40 [11.7]	48.1 [14.1]	46.2 [13.5]	46.2 [13.5]	49.4 [14.5]	47.3 [13.9]	49.4 [14.5]	47.3 [13.9]	47.7 [14]	48.6 [14.2]	47.3 [13.9]	46.9 [13.8]	47.7 [14]	46.9 [13.8]	
	Power	5.1	5	5	5.1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
115°F [46.1°C]	Total BTUH [kW]	56.6 [16.6]	54.8 [16.1]	51.9 [15.2]	52.7 [15.5]	51.1 [15]	51.9 [15.2]	49 [14.4]	48.3 [14.1]	48.3 [14.1]	46.5 [13.6]	45.8 [13.4]	46.5 [13.6]	45.8 [13.4]	45.6 [13.3]	46.5 [13.6]	45.8 [13.4]	44.9 [13.1]	45.6 [13.3]	44.9 [13.1]	
	Sens BTUH [kW]	33.9 [9.9]	31.3 [9.2]	39 [11.4]	40.6 [11.9]	37.5 [11]	39 [11.4]	47 [13.8]	45.2 [13.3]	45.2 [13.3]	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	
	Power	5.4	5.3	5.3	5.4	5.3	5.3	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	
120°F [48.9°C]	Total BTUH [kW]	54.3 [15.9]	52.6 [15.4]	49.7 [14.6]	50.4 [14.8]	48.9 [14.3]	49.7 [14.6]	46.7 [13.7]	46 [13.5]	46 [13.5]	44.2 [13]	43.6 [12.8]	44.2 [13]	43.6 [12.8]	43.2 [12.7]	44.2 [13]	43.6 [12.8]	42.6 [12.5]	43.2 [12.7]	42.6 [12.5]	
	Sens BTUH [kW]	32.7 [9.6]	30.2 [8.8]	37.9 [11.1]	39.4 [11.6]	36.4 [10.7]	37.9 [11.1]	45.9 [13.4]	44.1 [12.9]	44.1 [12.9]	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	
	Power	5.7	5.6	5.7	5.7	5.6	5.7	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.7	5.6	
125°F [51.7°C]	Total BTUH [kW]	51.8 [15.2]	50.2 [14.7]	47.2 [13.8]	47.9 [14]	46.5 [13.6]	47.2 [13.8]	44.2 [13]	43.5 [12.8]	43.5 [12.8]	41.8 [12.2]	41.1 [12.1]	41.8 [12.2]	41.1 [12.1]	40.7 [11.9]	41.8 [12.2]	41.1 [12.1]	40.1 [11.8]	40.7 [11.9]	40.1 [11.8]	
	Sens BTUH [kW]	31.4 [9.2]	29 [8.5]	36.7 [10.7]	38.1 [11.2]	35.2 [10.3]	36.7 [10.7]	44.2 [13]	42.9 [12.6]	42.9 [12.6]	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	
	Power	6.1	6	6	6.1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	

DR — Depression ratio Total — Total capacity x 1000 BTUH

dbE — Entering air dry bulb Sens — Sensible capacity x 1000 BTUH. When the entering air dry bulb is other than 80°F [27°C], adjust the sensible capacity from the table by adding [1.10 x CFM x (1 - DR) x (dbE - 80)].

wBE— Entering air wet bulb Power— KW input

Power is for compressor only.

## Selecting and Sizing Line Sets [VA14 Models]

### Line Sets and Fitting Losses

Refrigerant lines are measured in terms of actual length and equivalent length. Actual length is used for refrigerant charge applications and is the measurement of all of the vertical and horizontal lines from the indoor and outdoor units. Equivalent length takes into account pressure losses from line lengths, fittings, vertical separations, accessories, and filter dryers. Table 1 below provides equivalent lengths for different commonly used parts in refrigerant lines. Equivalent length is the sum of the actual length of the line set plus the equivalent length of all fittings, accessories, and filter dryers. Equivalent length is used in determining proper line sizing and installation.

**Table 1**

Equivalent Length for Fittings (ft)							
Line Size (in)	90° Short Radius Elbow	90° Long Radius Elbow	45° Elbow	Solenoid Valve	Check Valve	Site Glass	Filter Dryer
3/8	1.3	0.8	0.3	6	4	0.4	6
1/2	1.4	0.9	0.4	9	5	0.6	6
5/8	1.5	1	0.5	12	6	0.8	6
3/4	1.9	1.3	0.6	14	7	0.9	6
7/8	2.3	1.5	0.7	15	8	1	6
1-1/8	2.7	1.8	0.9	22	12	1.5	6

### Liquid Line Selection

The purpose of the liquid line is to transport warm sub-cooled liquid refrigerant from the outdoor unit to the indoor unit. It is important to maintain a column of liquid all the way to the expansion device and not to allow the refrigerant to flash into superheated vapor. The flashing of refrigerant can occur for the following reasons:

- Low refrigerant charge
- Improperly selected liquid line size
- Absorption of heat prior to expansion device
- Excessive vertical rise between the condenser and evaporator

The procedure for selecting the proper liquid line size and length is as follows:

- Measure the total amount of vertical rise (elevation).
- Measure the actual amount of liquid line required.
- Add all of the equivalent lengths associated with any fittings or accessories using Table 1.
- Add the actual length and equivalent lengths. This will equal your total equivalent length.
- Reference the Line Sizing Chart that matches the application (e.g. ODU above, ODU below, ODU same elevation as the IDU3) and the capacity size of the equipment.
- Verify that the value of the calculated total equivalent length is compatible with the applications vertical rise and diameter of the liquid line.
- Using the equivalent length total and the vertical rise in the application (if required) to determine the size and allowable lengths of the liquid line piping.

### Liquid Line General Notes:

- Regardless of equivalent length, the actual linear length of the tubing shall not exceed 200'.
- Design of the liquid line must not exceed 400 FPM and must have a minimum of 100 FPM.
- Liquid lines must be sized to minimize refrigerant pressure change.
- Sufficient refrigerant sub-cooling must be maintained at the expansion device for proper system operation.
- R-410A loses 0.43 PSI for every foot of vertical lift as a liquid. Length of pipe, fittings, liquid line filter drier also add pressure drop thus limiting applications where the outdoor unit is below the indoor unit to much shorter distances than when the outdoor unit is above the indoor unit.
- When the outdoor unit is above the indoor unit, the vertical line experiences an increase in PSIG (Static Gain) which will also lead to changes in subcooling at the metering device.
- The total pressure drop allowed for the liquid line is 50 PSI.

### Vapor Suction Line Selection

The purpose of the suction line is to return superheated vapor to the compressor from the evaporator. Suction line sizing and refrigerant velocity is important as they have a role in ensuring the return of oil to the compressor. An improperly sized suction line can reduce performance of the system.

The procedure for selecting the proper liquid line size is as follows:

Measure the total amount of vertical rise (elevation).

- Measure the actual amount of suction line required.
- Add all of the equivalent lengths associated with any fittings or accessories using Table 1.
- Add the actual length and equivalent lengths. This will equal your total equivalent length of suction line.
- Reference the Line Sizing Charts that matches the application (e.g. ODU above, below, or same elevation as the IDU) and the capacity size of the equipment.
- Verify that the value of the calculated total equivalent length is compatible with the applications vertical rise and diameter of the liquid line.
- Using the equivalent length total and the vertical rise in the application (if required) to determine the size and allowable lengths of the liquid line piping.

#### Suction Line General Notes:

- The Manufacturer does NOT require traps in the suction line when the condenser is above the evaporator, and recommends they not be used. The combination of miscibility of the POE oil and R-410A, along with compliance to the refrigerant line design instructions will ensure oil is properly returned without exceeding pressure drop limits in the vapor line. Traps will add to the pressure drop and therefore are counterproductive when the suction line is sized according to these guidelines.
- Refrigerant velocity for vertical suction risers must be maintained at 1100 FPM to ensure oil return. Horizontal suction lines must maintain 800 FPM. This will often result in different size refrigerant lines between horizontal and vertical applications. While gravity has very little effect on the gas itself, oil and pressure drop are still key factors.
- It is acceptable to use the larger size suction line for shorter horizontal runs and in applications where the indoor unit is above the outdoor unit to prevent capacity losses.
- Pressure drop within the suction line should be limited to 5 psi for R410A systems although the longest lines may slightly exceed this limit in an effort to maintain velocity. The maximum pressure is 7 psi.
- Suction line pressure loss reduces capacity by 0.6% for R-410A per psi. In order to minimize capacity loss suction pressure loss must be minimized.

### Refrigerant Level Adjustment

The residential outdoor units (ODU) are R-410A factory charged. The factory charge amount accounts for the ODU volume and an additional 15 feet of refrigerant tubing with a liquid line diameter of 3/8". This factory charge does not account for the volume of the factory supplied, field installed liquid line filter drier. Final adjustment of the refrigerant charge may be necessary during the system commissioning even if the application has exactly 15 feet of line set due to other installation variables such as the filter drier and pressure drops due to vertical separation. If additional refrigerant charge is needed it should be added before opening the ODU valves.

Adjust the refrigerant charge by using the actual liquid line length and the table below that indicates refrigerant charge in ounces per foot of the indicated liquid line size:

- 1/4" line diameter uses 0.3 ounces per foot of line (6.4 mm uses 8.5g per .30 m)
  - 5/16" line diameter uses 0.4 ounces per foot of line (7.9mm uses 11.3g per .30m)
  - 3/8" line diameter uses 0.6 ounces per foot of line (9.5mm uses 17.0g per .30 m)
  - 1/2" line diameter uses 1.2 ounces per foot of line (12.7mm uses 34.0g per .30 m)
  - Note: The factory provided filter drier requires an additional 6.0 ounces of refrigerant.
  - Note: The factory provided charge to account for the 15 feet of line set is 9 oz. (based on 3/8" line, 0.6 oz. per foot)
- Charge Adjustment = (Line Diameter oz. per ft.) x Total Actual Length) – Factory Charge + Filter Drier

### Additional Oil Adjustment

All refrigerant in the system will carry a small amount of oil. As more refrigerant is added to the system, additional oil will also need to be added.

The formula for determining how much oil to add to the system is as follows:

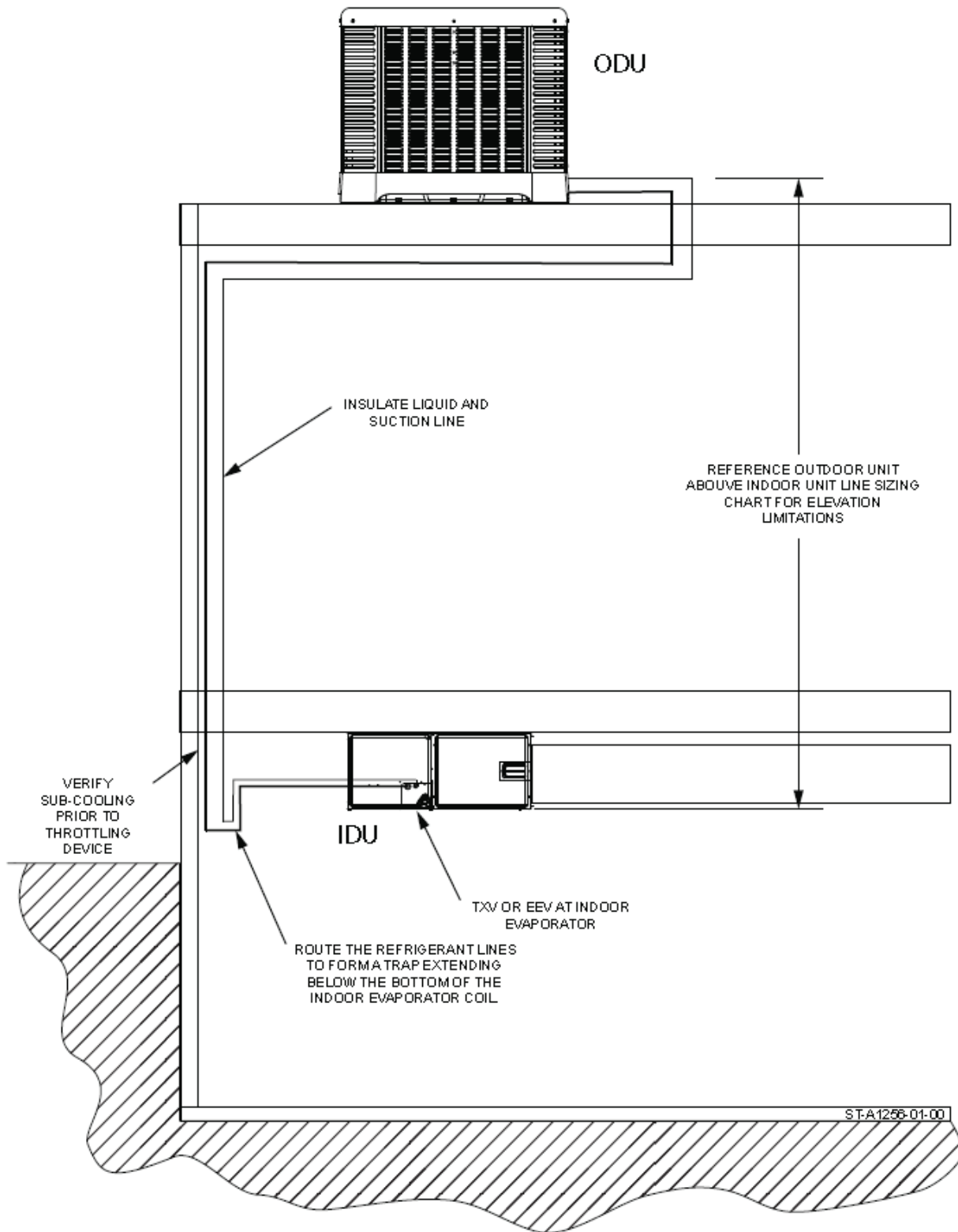
Oil to be Added = [(Charge Adjustment + OD

Unit Name Plate Charge (oz.) x (0.022) – [(0.10

x (Compressor Name Plate Oil Charge (oz.))]

(See Table 2 for Compressor Name Plate Oil Charge).

## OUTDOOR UNIT ABOVE THE INDOOR UNIT



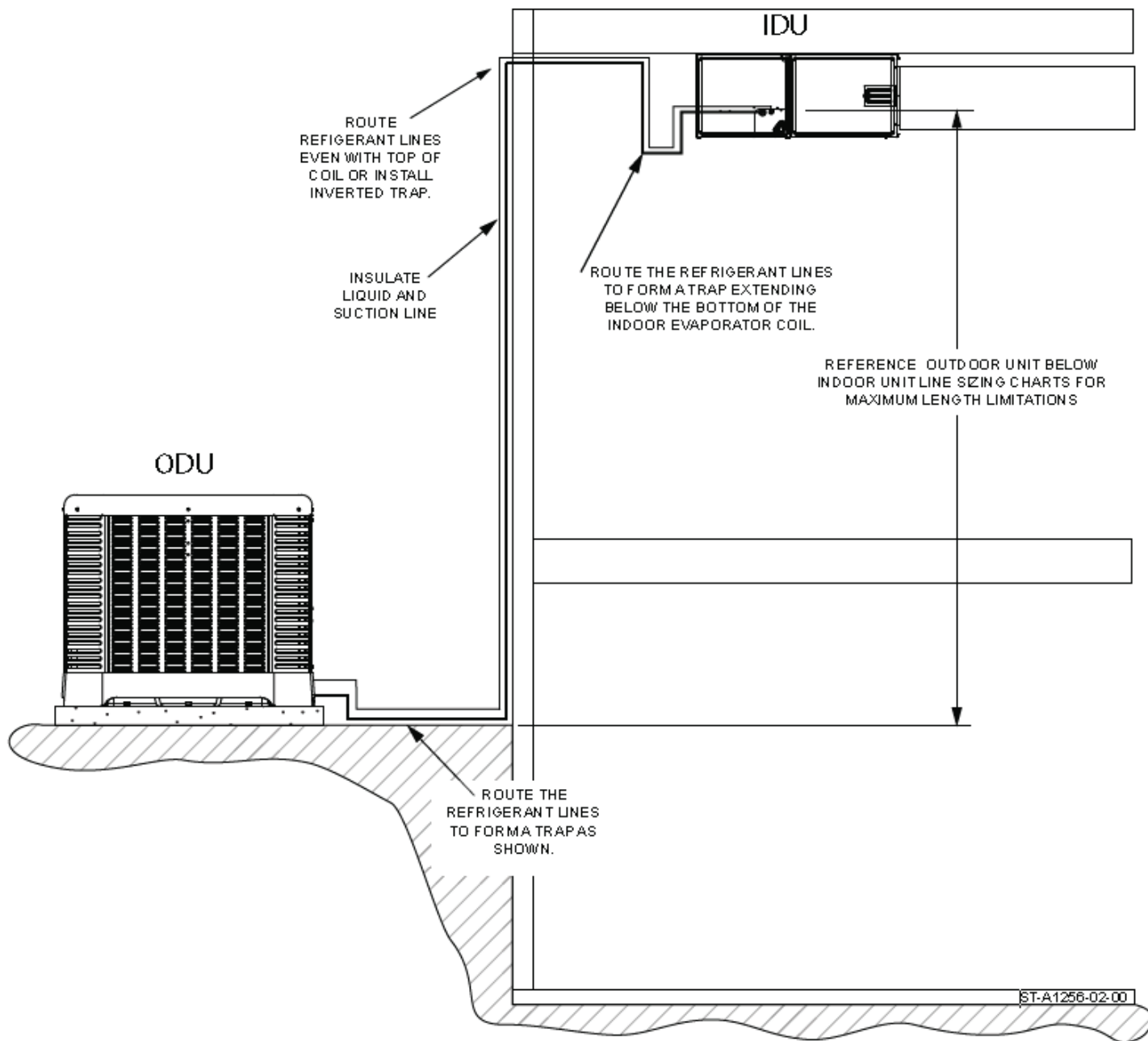
Note: Following is the chart specific to applications where the outdoor unit is above the indoor coil. Do not confuse charts designated with outdoor unit above indoor coil, with charts designated with outdoor unit below indoor coil.

## Outdoor Unit ABOVE Indoor Unit

Single Stage VA14	Liquid Line Size [mm]	Suction Line Size [mm]	Condition - A					Condition - B					Condition - C				
			Equivalent Length in Meters					Equivalent Length in Meters					Equivalent Length in Meters				
			<15	15.5-22.5	23-45	38-45	45-75	75-90	45.5-52.5	53-60	61.5-67.5	68-75	75.5-82.5	83-90			
			Maximum Vertical Separation / Capacity Multiplier														
1.5 Ton	1/4" [6.35]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.96	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.96	52.5 / 0.96	52.5 / 0.96	52.5 / 0.96	
	5/16" [7.94]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.98	45 / 0.96	52.5 / 0.97	58 / 0.97	56 / 0.96	55 / 0.96	52.5 / 0.96	52.5 / 0.96	52.5 / 0.96	52.5 / 0.96	52.5 / 0.96	
	3/8" [9.525]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.98	45 / 0.96	52.5 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	60 / 0.96	60 / 0.96	60 / 0.96	60 / 0.96	60 / 0.96	
2 Ton	1/4" [6.35]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	52 / 0.97	55 / 0.96	50 / 0.95	47 / 0.95						
	5/16" [7.94]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	52.5 / 0.97	60 / 0.96	60 / 0.95	60 / 0.95						
	3/8" [9.525]	5/8" [15.88]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	52.5 / 0.97	60 / 0.96	60 / 0.95	60 / 0.95						
2.5 Ton	5/16" [7.94]	5/8" [15.88]	15 / 0.98	22.5 / 0.97	33.5 / 0.97	40 / 0.95	45 / 0.92	52.5 / 0.94	60 / 0.93	60 / 0.93	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.91	
	3/8" [9.525]	5/8" [15.88]	15 / 0.98	22.5 / 0.97	33.5 / 0.97	40 / 0.95	45 / 0.92	52.5 / 0.94	60 / 0.93	60 / 0.93	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.91	
	5/16" [7.94]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.92	52.5 / 0.94	60 / 0.93	60 / 0.93	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.92	60 / 0.91	
3 Ton	3/8" [9.525]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.97	52.5 / 0.96	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	
	5/16" [7.94]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.97	52.5 / 0.96	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	
	3/8" [9.525]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.97	52.5 / 0.96	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	
3.5 Ton	5/16" [7.94]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.96	52.5 / 0.98	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	
	3/8" [9.525]	3/4" [19.06]	15 / 1.00	22.5 / 0.99	33.5 / 0.99	40 / 0.98	45 / 0.96	52.5 / 0.98	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	
	5/16" [7.94]	7/8" [22.22.5]	15 / 1.00	22.5 / 1.00	33.5 / 1.00	40 / 1.00	45 / 0.96	52.5 / 0.99	60 / 0.99	60 / 0.99	60 / 0.99	60 / 0.99	60 / 0.99	60 / 0.99	60 / 0.96	60 / 0.96	
4 Ton	3/8" [9.525]	3/4" [19.06]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.95	45 / 0.92	52.5 / 0.94	60* / 0.93	60* / 0.93	58* / 0.92	52* / 0.92	52* / 0.92	52* / 0.92	47* / 0.91	47* / 0.91	
	5/16" [7.94]	3/4" [19.06]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.95	45 / 0.92	52.5 / 0.94	60* / 0.93	60* / 0.93	58* / 0.92	52* / 0.92	52* / 0.92	52* / 0.92	47* / 0.91	47* / 0.91	
	3/8" [9.525]	3/4" [19.06]	15 / 0.98	22.5 / 0.97	33.5 / 0.96	40 / 0.95	45 / 0.92	52.5 / 0.94	60* / 0.93	60* / 0.93	58* / 0.92	52* / 0.92	52* / 0.92	52* / 0.92	47* / 0.91	47* / 0.91	
5 Ton	1/2" [12.71]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.98	33.5 / 0.98	40 / 0.97	45 / 0.96	52.5 / 0.97	60 / 0.97	60 / 0.97	60 / 0.96	60 / 0.96	60 / 0.96	60 / 0.96	60* / 0.96	60* / 0.96	
	3/8" [9.525]	3/4" [19.06]	15 / 1.00	22.5 / 0.96	33.5 / 0.95	40 / 0.93	45 / 0.90	52.5 / 0.92	60* / 0.92	55* / 0.91	49* / 0.90						
	5/16" [7.94]	3/4" [19.06]	15 / 0.98	22.5 / 0.96	33.5 / 0.95	40 / 0.93	45 / 0.90	52.5 / 0.92	60 / 0.92	60 / 0.91	60 / 0.90	60 / 0.90	60 / 0.90	60 / 0.90	60* / 0.89	60* / 0.89	
5 Ton	3/8" [9.525]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	52.5 / 0.97	60* / 0.96	55* / 0.96	49* / 0.95						
	5/16" [7.94]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	52.5 / 0.97	60 / 0.96	60 / 0.96	60 / 0.95	60 / 0.95	60 / 0.95	60 / 0.95	60* / 0.95	60* / 0.94	
	3/8" [9.525]	7/8" [22.22.5]	15 / 1.00	22.5 / 0.99	33.5 / 0.98	40 / 0.97	45 / 0.95	52.5 / 0.97	60 / 0.96	60 / 0.96	60 / 0.95	60 / 0.95	60 / 0.95	60 / 0.95	60* / 0.95	60* / 0.94	

Condition:	Total Equivalent Length	Max. Vertical Separation
A	Standard unit	<33.5
B	Use Oil Separator recommended and Crank case heater.	34 ~ 45
C	Use Oil Separator, Crank case heater, Hard Start Kit and Non-bleed TXV.	45.1 ~ 60
Black	Not Recommended	
*	* Applications with asterisks (*) require a minimum of 15m vertical separation.	

## OUTDOOR UNIT BELOW THE INDOOR UNIT



Note: Following is the chart specific to applications where the outdoor unit is below the indoor coil. Do not confuse charts designated with outdoor unit below indoor coil, with charts designated with outdoor unit above indoor coil.

Outdoor Unit BELOW Indoor Unit													
Single Stage VA 14	Liquid Line Size [mm]	Suction Line Size [mm]	Equivalent Length in Meter										
			<15	15.5-22.5	23-30	30.5-37.5	38 - 45	45.5-52.5	53-60	61.5-67.5	68-75	75.6-82.5	83-90
Maximum Vertical Separation / Capacity Multiplier													
1.5 Ton	5/16" [7.94]	5/8" [15.88]	15/0.99	21.0/0.99	18/0.98	13.5/0.98	10.5/0.98	6/0.97	3/0.97				
	3/8" [9.525]	5/8" [15.88]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	18/0.96	15/0.95
	5/16" [7.94]	3/4" [19.06]	15/1.00	21.0/1.00	18/1.00	13.5/1.00	10.5/0.99	6/0.99	3/0.99				
	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	18/0.99
2 Ton	5/16" [7.94]	5/8" [15.88]	15/1.00	13.5/0.99	25/0.98	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.95	24.5/0.94	24.5/0.94	9/0.94	3/0.93
	3/8" [9.525]	5/8" [15.88]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.94	24.5/0.93	15/0.92	
	5/16" [7.94]	3/4" [19.06]	15/1.00	13.5/1.00	25/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	9/0.98	3/0.98
	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	15/0.97	
2.5 Ton	5/16" [7.94]	5/8" [15.88]	12/09.8	3/0.97									
	3/8" [9.525]	5/8" [15.88]	15/0.98	22.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	24.5/0.94	24.5/0.93	24.5/0.93	15/0.92	
	5/16" [7.94]	3/4" [19.06]	12/1.00	3/0.99									
	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/0.99	24.5/0.99	24.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	15/0.97	
3 Ton	5/16" [7.94]	3/4" [19.06]	10.5/1.00	10/0.99									
	3/8" [9.525]	3/4" [19.06]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	10/0.96	
	1/2" [12.71]	3/4" [19.06]	15/1.00	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.97	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95
	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	10/0.98	
3.5 Ton	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.98	24.5/0.98
	3/8" [9.525]	3/4" [19.06]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	21.0/0.95		
	1/2" [12.71]	3/4" [19.06]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	18/0.94	
	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.99	21.0/0.98	18/0.97
4 Ton	3/8" [9.525]	3/4" [19.06]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	15/0.95		
	1/2" [12.71]	3/4" [19.06]	15/0.99	22.5/0.99	24.5/0.98	24.5/0.98	24.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	18/0.95	12/0.94	
	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	15/0.98		
	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/1.00	24.5/1.00	24.5/1.00	24.5/1.00	24.5/0.99	24.5/0.99	24.5/0.99	24.5/0.98	18/0.98	12/0.97
5 Ton	3/8" [9.525]	3/4" [19.06]	15/0.98	22.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	12/0.94	6/0.94			
	1/2" [12.71]	3/4" [19.06]	15/0.98	22.5/0.98	24.5/0.97	24.5/0.96	24.5/0.96	24.5/0.95	21.0/0.94	15/0.94	9/0.93		
	3/8" [9.525]	7/8" [22.23]	15/1.00	22.5/0.99	24.5/0.99	24.5/0.98	24.5/0.98	18/0.97	12/0.97	6/0.96			
	1/2" [12.71]	7/8" [22.23]	15/1.00	22.5/0.99	24.5/0.99	24.5/0.98	24.5/0.98	24.5/0.97	21.0/0.97	15/0.96	9/0.96		

**Notes:**

Always use the smallest Liquid Line allowable to keep system charge to a minimum

Additional refrigerant and oil may be required (see Application Notes)

Vertical separation cannot Exceed 24.5 meter of length.

Light gray shaded areas require long line set application (Oil Separator, Crank Case Heater, Hard Start Kit and Non-bleed TXV).

These areas in the chart are not applicable for installation.

## LONG LINE SET APPLICATIONS

This section is intended for long line applications as noted in the light grey shaded areas in the Line Sizing Charts. Long line set applications require accessories, unit specific requirements, and long line set installation considerations. The following are special considerations required when installing a line set that is considered to be a long line set.

- Long line Set Accessories
- Long Line Set Unit Requirements
- Long Line Installations Considerations
- Additional Refrigerant Charge
- Additional Oil Level Adjustment
- Fitting losses and maximum equivalent length considerations.
- Refrigerant Migration in the off cycle
- Oil Return to the compressor
- Capacity losses

### Long Line Set Accessories

#### Crankcase Heater

Some models come from the factory with crankcase heaters already installed. See the Crankcase Heater table to determine if the accessory needs to be ordered and field installed.

#### Hard Start Kit (SK-A1)

In applications with long line sets, one characteristic will be added refrigerant. Hard Start components will increase the starting torque of the compressor in order to overcome the pressure differential on the compressor. See the Hard Start Kit Accessory Part number SK-A1 to order and field install.

### Long Line Set Unit Requirements

#### Non-Bleed TXV's on indoor Coils

All air handler coils are shipped with factory installed non-bleed TXV's. If this TXV is replaced it will require a non-bleed type.

### Long Line Installation Considerations

#### Liquid Line Sizing

Reference the Selection and Sizing Line Sets section, Liquid Lines in this guide.

- Minimize pressure change
- Ensure sub-cooled liquid at the expansion device
- Size as small as possible without exceeding the recommended maximum pressure drop

#### Liquid Line Insulation

When the liquid line is run through an unconditioned space for any significant length, it is subject to losing or gaining heat from the ambient air. This can cause refrigerant to flash in the liquid line prior to the TXV.

#### Suction Line Sizing

Reference the Selection and Sizing Line Sets section, Suction Lines in this guide.

- Minimize pressure loss
- In applications where ODU is Above IDU maintain refrigerant gas velocity to ensure oil return

### **Suction Line Insulation**

Insulation may be required on the vapor line if it is traveling through, at extended distances, an unconditioned space. Insulation slows the transfer of heat absorbed by the cool vapor line preventing excess superheat by the time the refrigerant gets to the compressor.

### **Inverted Trap**

When the system is installed with the outdoor unit below the indoor coil, an inverted trap, installed at the indoor coil will prevent oil and refrigerant drainage to the outdoor unit in the off cycle. An inverted trap is simply a matter of making sure the refrigerant lines exit the indoor coil and go upward to a height above the top of the coil before going back down toward the outdoor unit.

### **Refrigerant Level Adjustment**

Longline sets will require the refrigerant charge level to be adjusted. Reference the Refrigerant Level Adjustment section to determine the amount of R-410A refrigerant is required.

- Always recheck and readjust system refrigerant charge levels as needed during the final commissioning phase.

### **Additional Oil**

With long line sets as more refrigerant is added to the system, additional oil will need to be added. Reference the Additional Oil Adjustment section to determine the quantity of POE oil to add.

### **Capacity**

Use the capacity multiplier in the Line Sizing Charts to determine the impact to the system capacity based on long line set applications. Determine that the capacity meets the application requirements.

### **Summary of Important Notes:**

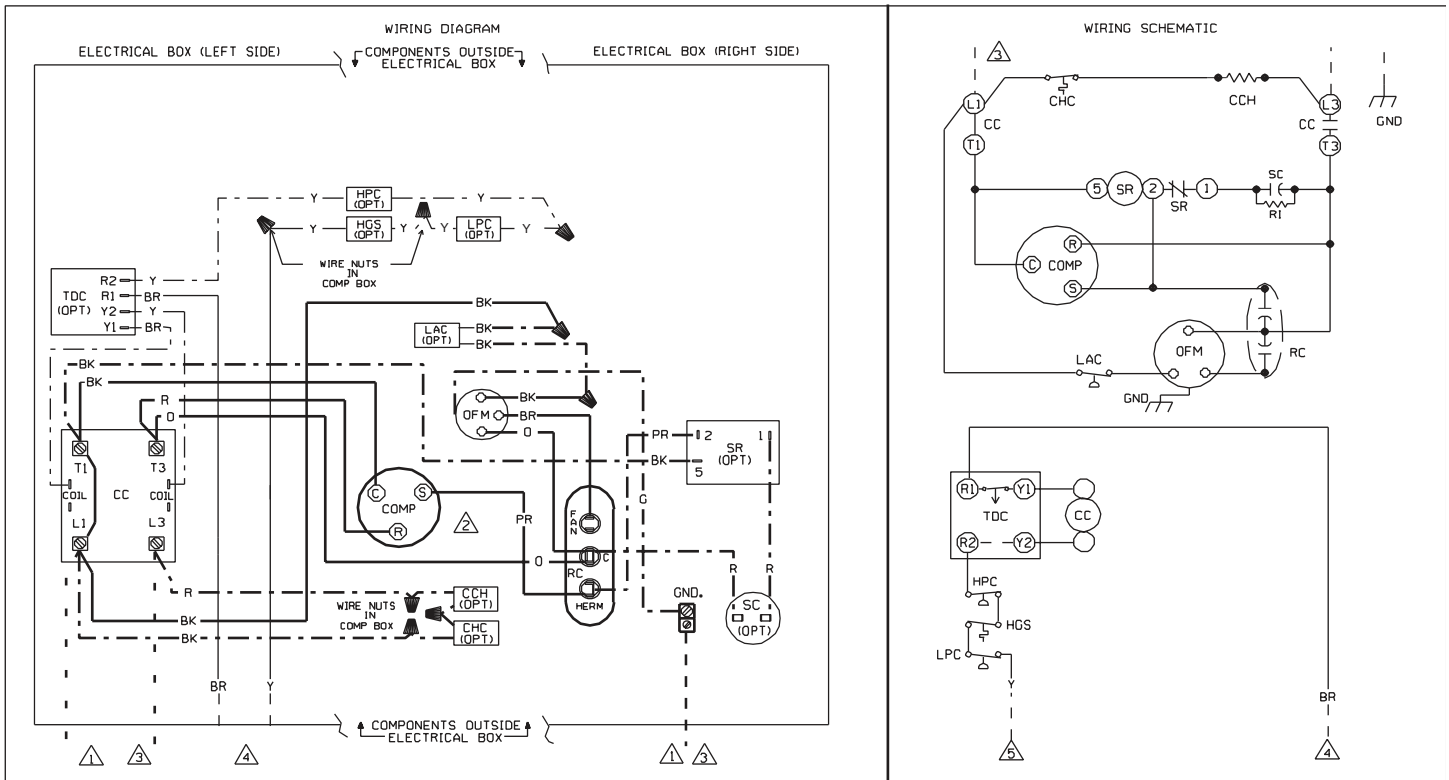
- The Maximum Actual Linear Length of the refrigerant lines shall not exceed 200 ft. [61 m].
- Equivalent Length shall not exceed 300 ft. [91.4 m].
- Maximum Vertical Separation may not exceed 200 ft. [61 m].
- Maximum Vertical Separation may not exceed 90% of the total actual length.
- Maximum Vertical Lift on liquid line may not exceed 80 ft. [24.5 m] (Outdoor Unit Below and all Heat Pumps).
- Follow Refrigerant Line Sizing Charts, do not exceed lengths, vertical separation, line diameters or total actual length described in these charts.
- Understand the difference between Actual and Equivalent Lengths. Refrigerant lines are measured in terms of actual length and equivalent length. Actual length is used for refrigerant charge applications. This is the actual line set distance between the indoor and outdoor units. Equivalent length takes into account pressure losses from refrigerant line lengths, fittings, vertical separation, accessories, and filter dryers. Table 1 references different commonly used equivalent lengths for fittings and parts.
- Applications in the grey shaded areas of the Line Size Charts (Long Line Set) require the use of appropriate accessories, unit requirements, and installation considerations.

- Applications in the blacked out areas on the liquid line tables exceed manufacture recommendations.
- Additional refrigerant may be required depending on the system application.
- Additional Oil will be required when the refrigerant volume is increased.
- Additional refrigerant line insulation may be required on the vapor line and/or liquid line.
- Inverted Traps are used when the indoor coil is above the outdoor coil. This prevents oil from draining out of the evaporator in the off cycle which can accumulate near the compressor.
- See Table 2 for information regarding factory oil charge and factory installed crankcase heaters and oil separators.

**TABLE 2**

<b>OD Model</b>	<b>Compressor</b>	<b>Compressor Name Plate Factory Oil Charge (oz.)</b>	<b>Factory Installed CCH (Yes or No)</b>	<b>Crankcase Heater</b>
<b>(-)A1418AJ</b>	ZP14KAE-PFV-130	21	No	44-17402-44
<b>(-)A1424AJ</b>	ZP20KAE-PFV-130	21	No	44-17402-44
<b>(-)A1430AJ</b>	ZP24K5E-PFV-130	25	No	44-17402-44
<b>(-)A1436AJ</b>	ZP29K5E-PFV-130	25	No	44-17402-44
<b>(-)A1442AJ</b>	ZP34K5E-PFV-130	42	No	44-17402-45
<b>(-)A1448AJ</b>	ZP39K5E-PFV-130	42	No	44-17402-45
<b>(-)A1460AJ</b>	ZP49K6E-PFV-130	42	No	44-17402-45

# VA14 WIRING DIAGRAM



<p><b>COMPONENT CODE</b></p> <p>CC COMPRESSOR CONTACTOR CCH CRANKCASE HEATER CHC CRANKCASE HEATER CONTROL COMP COMPRESSOR GND GROUND, CHASSIS HPC HIGH PRESSURE CUT-OUT CONTROL LAC LOW AMBIENT COOLING CONTROL LPC LOW PRESSURE CUT-OUT CONTROL DFM OUTDOOR FAN MOTOR OPT OPTIONAL RC RUN CAPACITOR SC START CAPACITOR SR START RELAY TDC TIME DELAY CONTROL HGS HOT GAS SENSOR PTCR POSITIVE TEMPERATURE COEFFICIENT RELAY</p>	<p><b>NOTES:</b> ⚠</p> <ol style="list-style-type: none"> <li>CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.</li> <li>MOTOR COMPRESSOR THERMALLY PROTECTED AND ALL 3 PHASE ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.</li> <li>CONNECT FIELD WIRING IN GROUNDED RAINTIGHT CONDUIT TO 60 HERTZ DISCONNECT, VOLTAGE AND PHASE PER RATING PLATE. USE 60° C WIRE.</li> <li>LOW VOLTAGE CIRCUIT TO BE N.E.C. CLASS 2 WITH A CLASS 2 TRANSFORMER 24 VOLT, 60 HERTZ.</li> <li>TO THERMOSTAT SUB-BASE, REFER TO SYSTEM SCHEMATICS OR SCHEMATICS ON INDOOR SECTION FOR LOW VOLTAGE CONTROL WIRING.</li> </ol>																				
<p><b>WIRING INFORMATION</b></p> <p>LINE VOLTAGE -FACTORY STANDARD _____ -FACTORY OPTION ----- -FIELD INSTALLED - - - - -</p> <p>LOW VOLTAGE -FACTORY STANDARD _____ -FACTORY OPTION ----- -FIELD INSTALLED - - - - -</p> <p>REPLACEMENT WIRE -MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)</p> <p>WARNING -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C. AND LOCAL CODES AS APPLICABLE.</p>	<p><b>WIRE COLOR CODE</b></p> <table border="0"> <tr> <td>BK__BLACK</td> <td>O__ORANGE</td> </tr> <tr> <td>BR__BROWN</td> <td>PR__PURPLE</td> </tr> <tr> <td>BL__BLUE</td> <td>R__RED</td> </tr> <tr> <td>G__GREEN</td> <td>W__WHITE</td> </tr> <tr> <td>GY__GRAY</td> <td>Y__YELLOW</td> </tr> </table> <p><b>WIRING DIAGRAM</b> REMOTE AIR CONDITIONER 208/230 VOLT SINGLE PHASE</p> <table border="1"> <tr> <td>DR. BY</td> <td>APP. BY</td> <td>DATE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	BK__BLACK	O__ORANGE	BR__BROWN	PR__PURPLE	BL__BLUE	R__RED	G__GREEN	W__WHITE	GY__GRAY	Y__YELLOW	DR. BY	APP. BY	DATE	DWG. NO.	REV					
BK__BLACK	O__ORANGE																				
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DR. BY	APP. BY	DATE	DWG. NO.	REV																	



# GUIDE SPECIFICATIONS

## General

### Condensing Unit Description

Outdoor-mounted, air-cooled, split-system air conditioner composite base pan unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, suction and legend line service valve, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a coil / air handler unit.

### Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 210/240.
- Unit will be certified for capacity and efficiency.
- Unit construction will comply with latest edition of ANSI/ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards.
- Unit cabinet will be capable of withstanding ASTM B117 1008-hr salt spray test.
- Air-cooled condenser coils will be leak tested at 150 psig and pressure tested at 550 psig.
- Unit constructed in ISO9001 approved facility.

### Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

### Products Equipment

Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A, and special features required prior to field start-up.

### Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.
- All units constructed with louver coil protection and corner post. Louver can be removed by removing one fastener per louver panel.

### Fans

- Condenser fan will be direct-drive propeller type, discharging air upward.
- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

### Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

### Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes.

### Refrigeration Components

- Refrigeration circuit components will include liquid-line shutoff valve with sweat connections, vapor-line shutoff valve with sweat connections, system charge of R-410A refrigerant, and compressor oil.
- Unit will be equipped with factory provided filter drier for R-410A refrigerant for field installation.

### Operating Characteristics

- The capacity of the unit will meet or exceed \_\_\_\_\_ Btuh at a suction temperature of \_\_\_\_\_ °F/°C. The power consumption at full load will not exceed \_\_\_\_\_ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of \_\_\_\_\_ Btuh or greater at conditions of \_\_\_\_\_ CFM entering air temperature at the evaporator at \_\_\_\_\_ °F/°C wet bulb and \_\_\_\_\_ °F/°C dry bulb, and air entering the unit at \_\_\_\_\_ °F/°C.
- The system will have a SEER of \_\_\_\_\_ Btuh/watt or greater at DOE conditions.

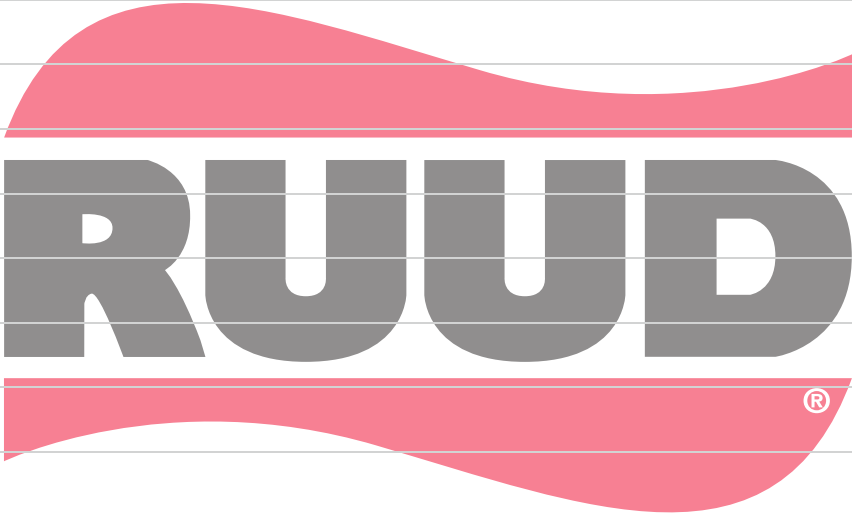
### Electrical Requirements

- Nominal unit electrical characteristics will be \_\_\_\_\_ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Nominal unit electrical characteristics will be \_\_\_\_\_ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

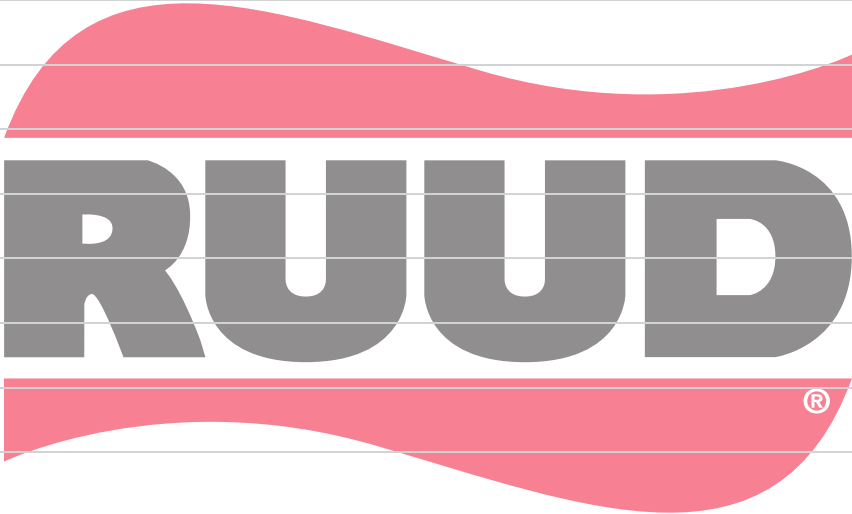
### Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.

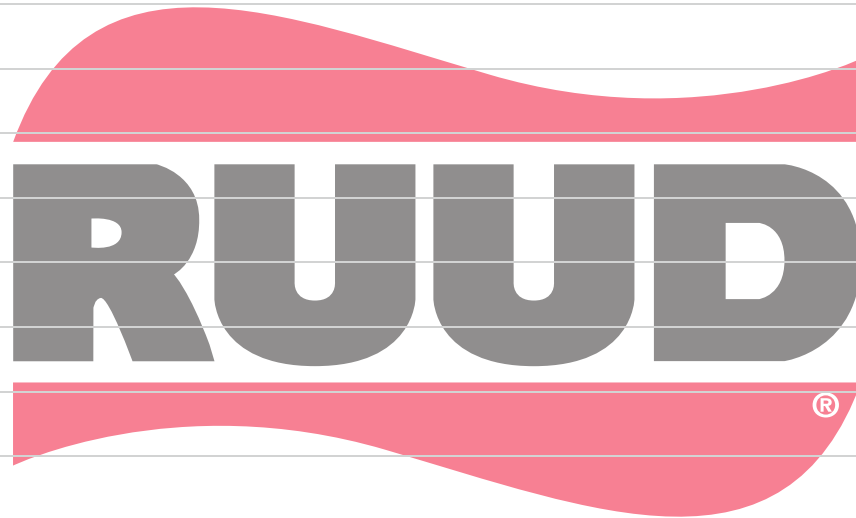
# Notes



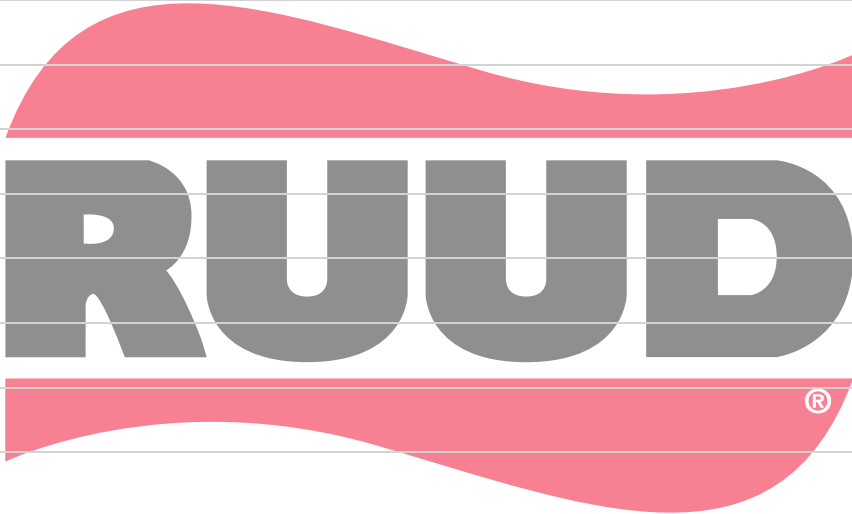
# Notes



# Notes



# Notes





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

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