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VERTICOOL

TECHNICAL DATA MANUAL

**Vertical Air/Water
Cooled 3-25 Tons**



UNITED COOLAIR VERTICOOL

The United CoolAir VertiCool is a self-contained Vertical Air Conditioner available in an Air-Cooled or Water-Cooled configuration. The VertiCool has been designed to accommodate tenant fit-outs, large open areas and other commercial A/C requirements. To allow ease of installation the VertiCool cabinet is only 32" wide. Height of the unit does not exceed 81" on systems 20 tons and smaller. When height reduction is necessary the VertiCool design includes the capability of easily removing the evaporator section with no loss of refrigerant charge. The VertiCool unit ships with a factory refrigerant charge and is given a complete functional run test at the factory. Connect power and control wiring, attach the drain and the VertiCool installation is complete.

The VertiCool units come in four different cabinet sizes which range from 3–25 tons in capacity. Standard features

include scroll compressor with phase rotation protection relay, powder coated cabinet, belt-driven evaporator and condenser blower with variable pitch motor pulley for static pressure adjustments, high and low pressure switch, sight glass, filter-drier, thermal expansion valves with external equalizer and service ports. All units have a "V" style stainless steel drain pan which assures no standing water in the airstream. Water-Cooled units are provided with factory installed two-way, 150 psig water regulating valves. All units ship as a single packaged unit, but can be shipped split as an option.

The VertiCool can be controlled using a standard thermostat, mini-microprocessor controls for temperature and humidity or a full microprocessor control system. These controls can handle cooling only, a variety of heating options and humidification / dehumidification across a wide application range.

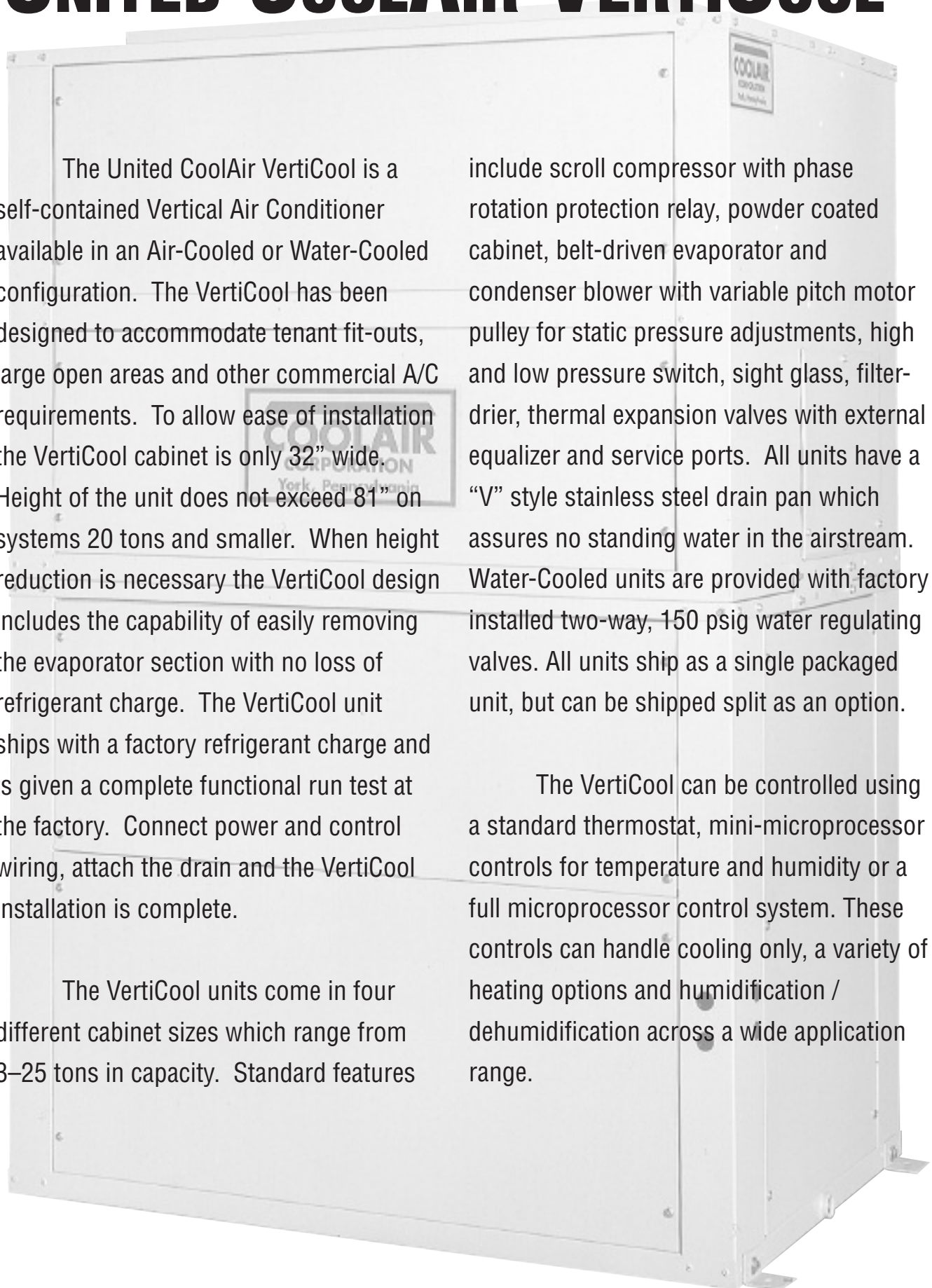


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CABINET

The heavy-duty steel cabinet is powder coated to provide an attractive finish. This powder coating is applied in an environmentally friendly process. The hardness of this powder coat finish prevents rust and deterioration of the cabinet. The evaporator section is equipped with a **stainless steel "V" style drain pan** which assures no standing water in the air stream.

EVAPORATOR AND AIR-COOLED CONDENSER COIL

The evaporator and condenser coils are of aluminum fin and copper tube construction. The coils are constructed of heavy-wall, seamless copper tubes that are mechanically expanded to the aluminum fins to provide the best heat transfer.

MOTORS AND BLOWERS

All motors are of ball bearing construction with keyed shafts and pulleys. All motor pulleys are of variable pitch design providing flexibility in external static pressure requirements. Utilizing standard motors, all units are capable of operating up to 1/4" external static pressure on the condenser and evaporator sections. Motors for **higher external static pressure requirements** are readily available.

REFRIGERANT CIRCUIT

All VertiCool units are equipped with adjustable expansion valves with external equalizers, sightglass/moisture indicators and filter driers. The VertiCool units use high-efficiency scroll compressors for quiet and reliable operation.

ELECTRICAL

All units have an electrical control panel provided in the condenser section of the unit which is easily accessible. Each component is factory tested, installed, wired and includes inherent protection. The transformer is oversized to eliminate low-voltage control problems and each component has its own contactor.

Compressors are provided with a phase protection relay (3-phase units only) and include high-/low-pressure controls in each circuit. An air pressure differential switch is supplied to shut down the system on loss of airflow when optional electric heat is utilized.

INSULATION

The unit is provided with acoustical insulation in both sections to maintain noise levels at a minimum.

SERVICEABILITY

All-around removable compartment panels provide ease of installation, inspection and service of all internal parts. The side access panels permit full serviceability to the expansion valve, control panels and compressors as well as the evaporator and condenser motors and blowers. Service ports are provided in the condenser section for field testing, or adapting a low ambient damper to the system.

FACTORY TESTED

Each unit is individually factory run-tested for functionality.

WARRANTY

United Coolair units are backed by a 1 (one) year limited warranty on parts and a 5 (five) year limited warranty on the compressor (labor not included). Filters, belts and other standard maintenance items do not apply to this warranty.



VertiCool Unit

Basic Model Designation

EXAMPLE: VA 3 G 3 AS - A or MVA R 3 G 3 AS 05 - A
 a c d e f h a b c d e f g h

a. “VA”, “VW”, “VHA”, “VHW”, “MVA”, “MVW”, “MVHA”, “MVHW”, “E”, “B” or “BC”

“VA”	Air-Cooled Air Conditioner 3 thru 25 Tons
“VW”	Water-Cooled Air Conditioner 3 thru 25 Tons
“VHA”	Air-Cooled Heat Pump 3 thru 25 Tons
“VHW”	Water-Cooled Heat Pump 3 thru 25 Tons
“MVA”	Air-Cooled, Microprocessor Control Unit 3 thru 25 Tons
“MVW”	Water-Cooled, Microprocessor Control Unit 3 thru 25 Tons
“MVHA”	Air-Cooled Heat Pump, Microprocessor Controlled 3 thru 25 Tons
“MVHW”	Water-Cooled Heat Pump, Microprocessor Controlled 3 thru 25 Tons
“E”	When E appears as a prefix to any of the above, it is the Evaporator Section only of the unit 3 thru 25 Tons
“B”	When B appears as a prefix to any of the above, it is the Condensing Section only of the unit 3 thru 25 Tons
“BC”	When B appears as a prefix to any of the above, it is the Condenser Section only of the unit 3 thru 25 Tons

b. “R” or “RC”

“R”	Remote Condenser Unit being used
“RC”	Remote Condensing Unit being used

c. “3”, “4”, “5”, “8”, “10”, “12”, “15”, “20”, “25” Nominal Cooling Capacity in Tons

d. “G” Common to all

e. “1”, “3”, “4” or “5” Indicates Voltage

“1”	208-230V, 1 PH (3 - 10 Ton Units Only)
“3”	208-230V, 3 PH
“4”	460V, 3 PH
“5”	575V, 3 PH

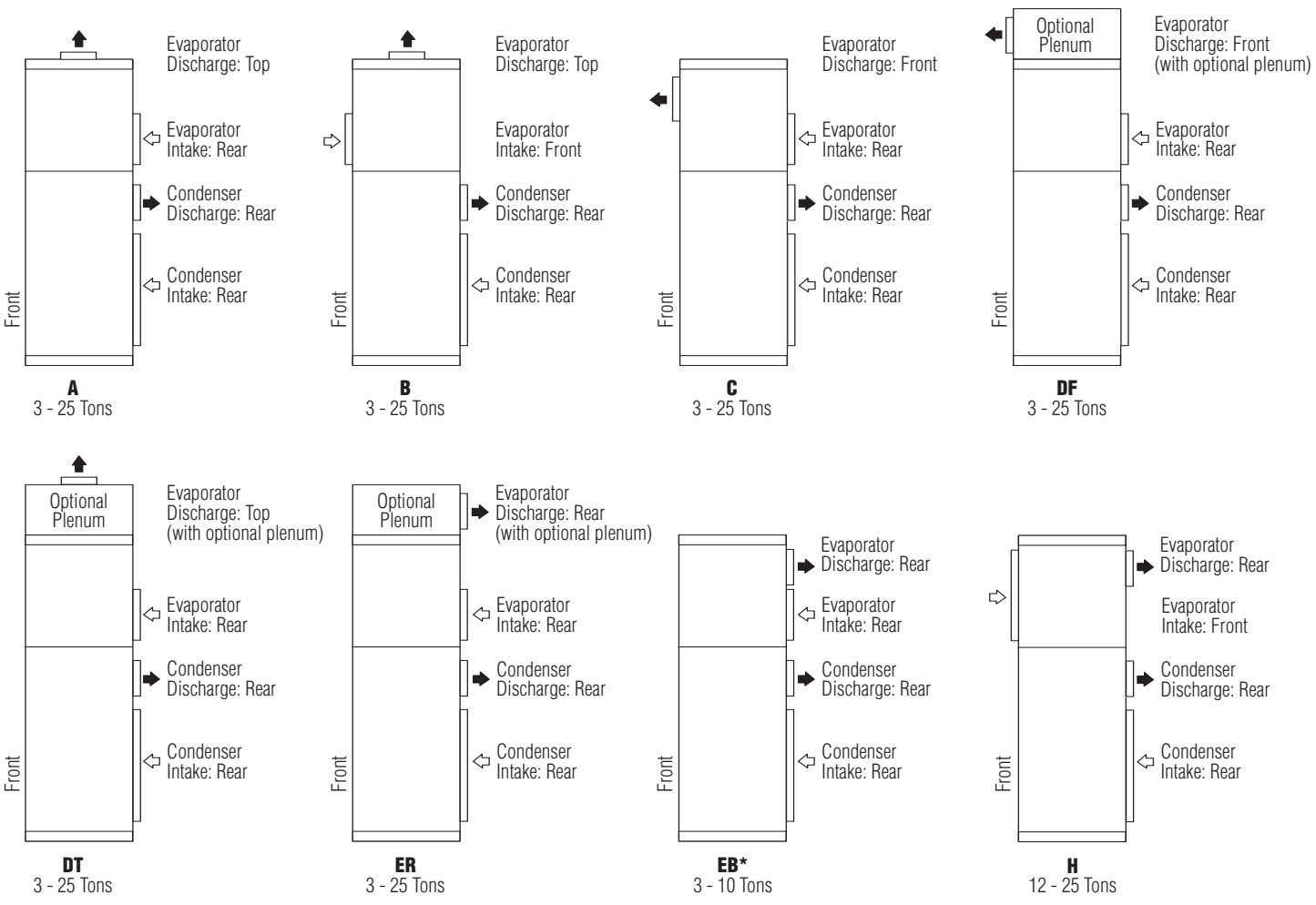
f. “AS”, “A”

“AS”	Indicates 1 Circuit
“A”	Indicates 2 Circuits

g. “05”, “10”, “15”, “20”, “25”, “30”, “45” Indicates kW Rating for Heaters

h. “A”, “B”, “C”, “DF”, “DT”, “EB”, “ER”, “F”, “FB”, “FF”, “FR”, “FT”, “G”, “GT”, “GR”, “H”, Indicates Air Path Configuration

VERTICOOL Air Path Configurations



* Refer to price pages

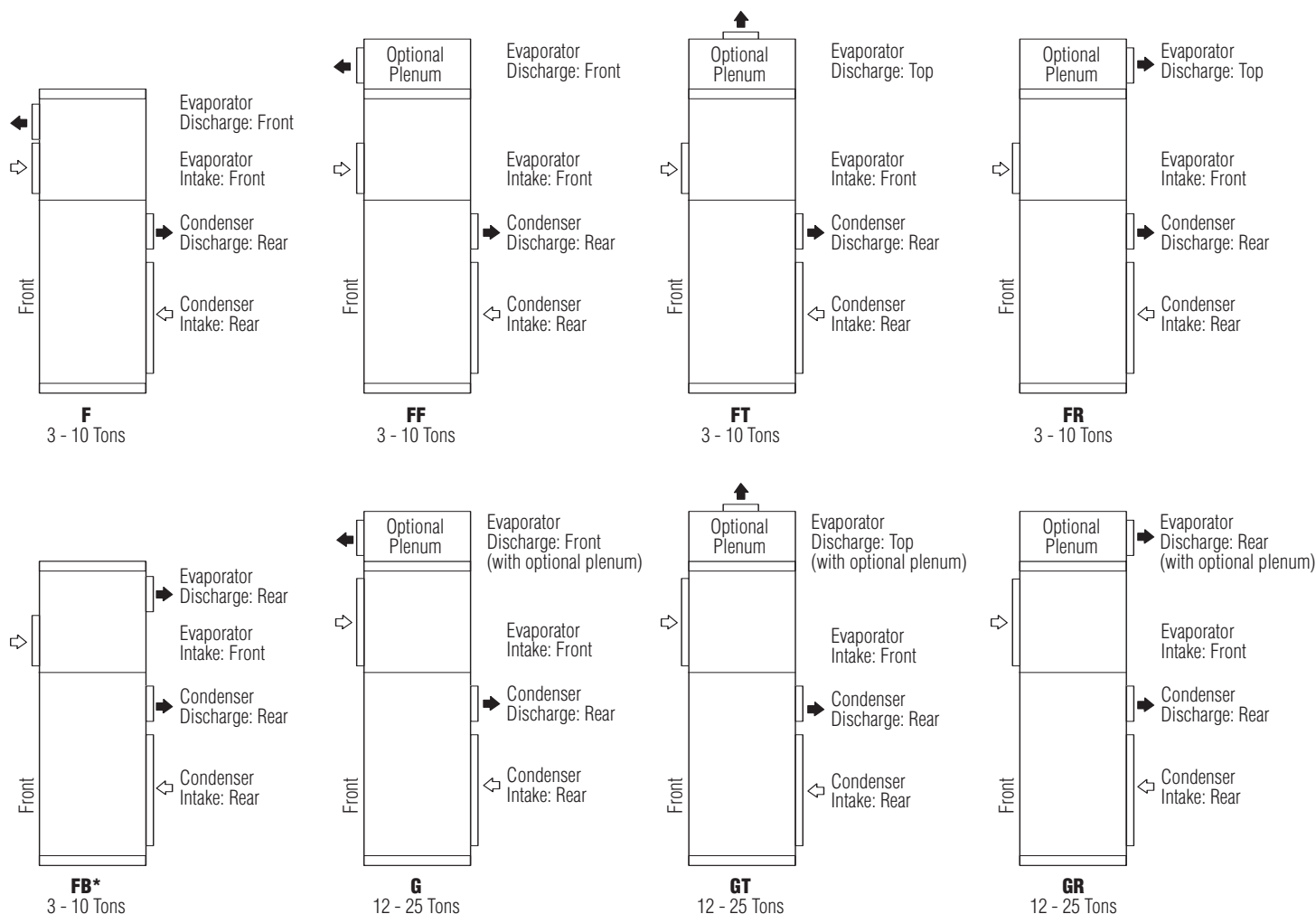
Water-cooled unit air path configuration is the same as air-cooled

External Static Pressure (ESP) based on air path configuration "B". Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance / and / or requirements.

Correction Factor for Variation in Airflow

% of CFM	Total Capacity	Sensible Capacity
80	0.97	0.94
85	0.98	0.95
90	0.99	0.97
100	1.00	1.00
110	1.02	1.03
120	1.03	1.06

VERTICOOL Air Path Configurations



Minimum Service Access Requirements

Access panels are provided in the front and sides of the unit.

Tons	Sides	Front
3-5	24"	36"
8-10	24"	36"
12-25	26"	36"

Some air path configurations and/or options may require additional or specific clearance for maintenance or service.

Application Data ^(a)

Voltage Variation	208 / 230	460
	187 / 253	414 / 504
Cooling (b) (Air Over Evap.)	DB (min./max.)	65 / 110
	WB (min./max.)	57 / 72
Water-Cooled	GPM / Ton (min./max.)	2.5 / 3.5
	Leaving Water Temp. (min./max.)	60 / 115

(a) Dependent upon specific application, some additional refrigerant circuit considerations may be required.

(b) Not all combinations may be valid.

VERTICOOL Unit - Air-Cooled Unit Performance Data

3-5 Ton - Single Compressor Performance Data:

Model No.	Entering Air Temp		Temperature °F Air Over Condenser					
	DB	WB	75°F		95°F		115°F	
			Total	Sensible	Total	Sensible	Total	Sensible
VA3G	86	72	45,300	31,500	41,800	30,200	38,200	28,900
	80	67	41,900	30,500	38,700	29,100	35,300	27,800
	75	62.5	38,900	30,300	35,900	28,900	32,700	27,500
	72	60	37,400	29,800	34,400	28,500	31,400	26,900
VA4G	86	72	56,200	39,800	52,500	38,500	48,900	37,100
	80	67	52,200	39,200	48,700	37,100	45,300	35,800
	75	62.5	49,100	38,600	45,200	36,900	42,000	35,300
	72	60	47,200	38,100	43,400	36,200	40,200	34,600
VA5G	86	72	67,700	48,000	62,900	46,300	57,800	44,500
	80	67	62,600	46,400	58,000	44,500	53,300	42,700
	75	62.5	57,900	46,000	53,700	44,000	49,200	41,900
	72	60	55,600	45,200	51,400	43,200	47,100	41,100

8-10 Ton - Dual Compressor Performance Data:

Model No.	Entering Air Temp		Temperature °F Air Over Condenser					
	DB	WB	75°F		95°F		115°F	
			Total	Sensible	Total	Sensible	Total	Sensible
VA8G	86	72	118,500	79,400	109,600	76,200	102,600	73,500
	80	67	110,100	77,200	104,000	74,500	95,100	70,900
	75	62.5	102,500	76,900	96,700	74,000	88,300	70,300
	72	60	100,000	76,800	92,800	72,800	84,600	69,300
VA10G	86	72	140,700	93,800	131,400	90,600	121,100	86,800
	80	67	130,600	91,300	121,400	87,500	111,700	83,700
	75	62.5	121,100	90,700	112,400	86,900	103,300	82,800
	72	60	116,100	89,400	107,700	85,400	98,800	81,300

12-20 Ton - Dual Compressor Performance Data:

Model No.	Entering Air Temp		Temperature °F Air Over Condenser					
	DB	WB	75°F		95°F		115°F	
			Total	Sensible	Total	Sensible	Total	Sensible
VA12G	86	72	184,200	120,350	183,500	120,050	160,880	111,580
	80	67	166,800	116,000	159,700	113,080	145,270	107,000
	75	62.5	155,880	115,400	148,800	112,090	135,400	105,980
	72	60	146,800	112,400	140,000	109,080	127,090	102,900
VA15G	86	72	227,875	146,100	213,890	141,040	194,400	133,460
	80	67	207,360	141,520	194,400	136,260	176,400	128,500
	75	62.5	193,390	140,612	183,400	136,150	164,750	127,360
	72	60	186,680	139,300	174,450	133,440	158,350	125,400
VA20G	86	72	278,500	178,300	264,400	172,900	242,400	164,800
	80	67	257,900	174,500	241,600	167,600	224,700	160,600
	75	62.5	239,000	173,000	222,400	165,100	208,000	158,500
	72	60	229,900	170,800	214,500	163,100	198,900	155,600

25 Ton - Dual Compressor Performance Data:

Model No.	Entering Air Temp		Temperature °F Air Over Condenser					
	DB	WB	75°F		95°F		115°F	
			Total	Sensible	Total	Sensible	Total	Sensible
VA25G	86	72	359,200	237,700	332,900	229,400	311,300	221,900
	80	67	330,500	230,300	309,000	222,000	287,400	214,500
	75	62.5	310,100	227,900	287,400	216,700	263,400	208,900
	72	60	296,900	222,800	275,400	213,600	251,400	204,200

Notes:

1. Capacities are Gross values and are not adjusted for motor heat.
2. Some refrigeration circuit components may impact on unit capacities.
3. Applications with ambient conditions 75°F and lower may require additional refrigerant circuit components. Consult factory with details.

VERTICOOL Unit - Physical Data

Tons	3	4	5	8	10	12	15	20	25
Available Voltages	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60
	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60
	460-3-60	460-3-60	460-3-60	460-3-60	460-3-60	460-3-60	460-3-60	460-3-60	460-3-60
Evaporator Supply Air	1200	1600	2000	3200	4000	4800	6000	8000	10,000
Std. ESP	0.25"								
Max. ESP (D)	1.0"								
Evaporator Blower	10 - 8	10 - 8	10 - 8	10 - 8	10 - 8	15 - 9	15 - 9	15 - 9	15 - 9
Qty	1	1	1	2	2	2	2	2	2
Std. HP	1/2	3/4	3/4	1.5	1.5	3	3	3	10
Opt. HP	3/4	1	1	2	2	5	5	5	15
Rows	4	4	4	4	4	4	4	4	4
Face Area	3.75	3.75	3.75	9	9	13.33	13.33	13.33	17.8
FPI	8	8	8	12	12	10	10	10	10
Filter	PERMANENT CLEANABLE								
Type	PLEATED THROWAWAY								
Qty	2	2	3	4	4	4	4	4	8
Dimensions	12 x 18.5 x 1								
Efficiency	20%								
Compressor	SCROLL								
Qty	2								
Humidifier (Option)	20 (C)								
Condenser Air	2100	2800	3500	6000	7500	7200	9000	12000	15,000
Std. ESP	0.25"								
Max. ESP (D)	1.0"								
Condenser Blower	10 - 8	10 - 8	10 - 8	15 - 9	15 - 9	15 - 9	15 - 9	15 - 9	15 - 9
Qty	2	2	2	2	2	3	3	3	3
Std. HP	1/2	3/4	1	2	3	5	5	5	10
Opt. HP	3/4	1	1.5	3	5	5 (F)	7.5 (G)	7.5 (G)	15
Rows	4	4	4	4	4	4	4	4	4
Face Area	6	6	6	11.25	11.25	20	20	20	20
FPI	14	14	14	12	12	12	12	12	12
Water-Cooled Condenser	Co-Axial								
Qty	1	1	1	2	2	2	2	2	2
GPM	9	12	15	24	30	36	45	60	75
PD, PSI (E)	6.4	8.8	10.2	8.8	10.2	8.8	14	10.95	13
Charge R-22(lb-oz)	5 - 0	5 - 0	5 - 0	6 - 5	6 - 5	11 - 0	11 - 0	11 - 0	12 - 0
(Charge/circuit) (A)	3 - 2	3 - 2	3 - 5	4 - 0	4 - 8	6 - 5	6 - 8	7 - 0	8 - 0
Weight (net op) (B)	630	640	650	1250	1275	2475	2475	2500	2800
Water-Cooled	560	580	590	1160	1190	2100	2150	2200	2500

(A) R-22 Refrigerant charge is for base unit configuration. Addition of some options may alter refrigerant amount.
 (B) Net Operating weight is for basic unit only. Options will add weight.
 (C) Externally mounted. A smaller humidifier with up to 12 Lbs./Hr can be supplied that is internal to the unit.
 (D) Requires optional motor / drive upgrade.
 (E) Heat exchanger only.
 (F) Pulley & Belt upgrade only.
 (G) Requires addition of pillow block bearings.

All specifications subject to change without notice.

VERTICOOL Unit - Air-Cooled Unit^{(D)(E)} Electrical Data Standard Motors^(A) Rated For .25" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN.	MAX.
			LRA	RLA	HP	FLA	HP	FLA					CIRCUIT AMPACITY	FUSE SIZE
VA3G1AS	3	208/230-1-60	93	22.5	1/2	3.8	1/2	3.8	---	---	---	---	35.7	60
VA3G3AS	3	208/230-3-60	77	11.4	1/2	2.2	1/2	2.2	---	---	---	---	18.7	35
VA3G4AS	3	460-3-60	39	5.7	1/2	1	1/2	1	---	---	---	---	9.2	15
VA4G1AS	4	208/230-1-60	125	30.7	3/4	5.8	3/4	5.8	---	---	---	---	50	85
VA4G3AS	4	208/230-3-60	99	15	3/4	3.2	3/4	3.2	---	---	---	---	25.2	45
VA4G4AS	4	460-3-60	49.5	8.2	3/4	1.5	3/4	1.5	---	---	---	---	13.3	25
VA5G1AS	5	208/230-1-60	142	34.3	3/4	5.8	1	7	---	---	---	---	55.7	90
VA5G3AS	5	208/230-3-60	123	19.3	3/4	3.2	1	3.4	---	---	---	---	30.8	55
VA5G4AS	5	460-3-60	62	10	3/4	1.5	1	1.6	---	---	---	---	15.6	30

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN.	MAX.
			LRA	RLA	HP	FLA	HP	FLA					CIRCUIT AMPACITY	FUSE SIZE
VA8G3A	8	208/230-3-60	99 ea.	15 ea.	1.5	5.0	2	6.5	---	---	---	---	45.3	65
VA8G4A	8	460-3-60	49.5 ea.	8.2 ea.	1.5	2.4	2	3.1	---	---	---	---	24	35
VA10G3A	10	208/230-3-60	123 ea.	19.3 ea.	1.5	5.0	3	8.8	---	---	---	---	57.3	80
VA10G4A	10	460-3-60	62 ea.	10 ea.	1.5	2.4	3	4.2	---	---	---	---	29.1	40

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN.	MAX.
			LRA	RLA	HP	FLA	HP	FLA					CIRCUIT AMPACITY	FUSE SIZE
VA12G3A	12	208/230-3-60	156 ea.	20.7 ea.	3	8.8	5	13.5	---	---	---	---	68.9	90
VA12G4A	12	460-3-60	70 ea.	10 ea.	3	4.2	5	6.5	---	---	---	---	33.2	45
VA15G3A	15	208/230-3-60	169 ea.	26.2 ea.	3	8.8	5	13.5	---	---	---	---	81.3	110
VA15G4A	15	460-3-60	94 ea.	14.3 ea.	3	4.2	5	6.5	---	---	---	---	42.9	60
VA20G3A	20	208/230-3-60	255 ea.	38.5 ea.	3	8.8	5	13.5	---	---	---	---	108.9	150
VA20G4A	20	460-3-60	127 ea.	18.8 ea.	3	4.2	5	6.5	---	---	---	---	53	75

Standard Motors^(B) Rated For 1" ESP on Evaporator and .25" ESP on Condenser^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN.	MAX.
			LRA	RLA	HP	FLA	HP	FLA					CIRCUIT AMPACITY	FUSE SIZE
VA25G3A	25	208/230-3-60	350 ea.	45.7 ea.	10	29.4	10	29.4	---	---	---	---	161.6	210
VA25G4A	25	460-3-60	158 ea.	24.3 ea.	10	14	10	14	---	---	---	---	82.7	110

(A) All motors 1725 RPM inherently protected.

(B) 10 HP Motors 1725 RPM with External Overloads.

(C) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Air-Cooled Unit^{(D)(E)} Electrical Data Optional Motors^(A) Rated For 1" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER		Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As	As					
VA3G1AS	3	208/230-1-60	93	22.5	3/4	5.8	3/4	5.8	---	---	---	---	---	39.7	65
VA3G3AS	3	208/230-3-60	77	11.4	3/4	3.2	3/4	3.2	---	---	---	---	---	20.7	35
VA3G4AS	3	460-3-60	39	5.7	3/4	1.5	3/4	1.5	---	---	---	---	---	10.1	20
VA4G1AS	4	208/230-1-60	125	30.7	1	7	1	7	---	---	---	---	---	52.4	85
VA4G3AS	4	208/230-3-60	99	15	1	3.4	1	3.4	---	---	---	---	---	25.6	45
VA4G4AS	4	460-3-60	49.5	8.2	1	1.6	1	1.6	---	---	---	---	---	13.5	25
VA5G1AS	5	208/230-1-60	142	34.3	1	7	1.5	9.4	---	---	---	---	---	59.3	95
VA5G3AS	5	208/230-3-60	123	19.3	1	3.4	1.5	5	---	---	---	---	---	32.5	55
VA5G4AS	5	460-3-60	62	10	1	1.6	1.5	2.4	---	---	---	---	---	16.5	30

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER		Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As	As					
VA8G3A	8	208/230-3-60	99 ea.	15 ea.	2	6.5	3	8.8	---	---	---	---	---	49.1	65
VA8G4A	8	460-3-60	49.5 ea.	8.2 ea.	2	3.1	3	4.2	---	---	---	---	---	25.8	35
VA10G3A	10	208/230-3-60	123 ea.	19.3 ea.	2	6.5	5	13.5	---	---	---	---	---	63.4	85
VA10G4A	10	460-3-60	62 ea.	10 ea.	2	3.1	5	6.5	---	---	---	---	---	32.1	45

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER		Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As	As					
VA12G3A	12	208/230-3-60	156 ea.	20.7 ea.	5	13.5	5	13.5	---	---	---	---	---	73.6	95
VA12G4A	12	460-3-60	70 ea.	10 ea.	5	6.5	5	6.5	---	---	---	---	---	35.5	50
VA15G3A	15	208/230-3-60	169 ea.	26.2 ea.	5	13.5	7.5	18	---	---	---	---	---	90.5	120
VA15G4A	15	460-3-60	94 ea.	14.3 ea.	5	6.5	7.5	9	---	---	---	---	---	47.7	65
VA20G3A	20	208/230-3-60	255 ea.	38.5 ea.	5	13.5	7.5	18	---	---	---	---	---	118.1	160
VA20G4A	20	460-3-60	127 ea.	18.8 ea.	5	6.5	7.5	9	---	---	---	---	---	57.8	80

Optional Motors^(B) Rated For 2" ESP on Evaporator and 1" ESP on Condenser^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER		Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As	As					
VA25G3A	25	208/230-3-60	350 ea.	45.7 ea.	15	37.6	15	37.6	---	---	---	---	---	178	225
VA25G4A	25	460-3-60	158 ea.	24.3 ea.	15	17	15	17	---	---	---	---	---	88.7	115

(A) All motors 1725 RPM inherently protected.

(B) 15 HP Motors 3450 RPM with External Overloads.

(C) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Microprocessor Controlled Air-Cooled Unit^{(D)(E)(H)} Standard Motors^(B) Rated For .25" ESP^(G)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA3G1AS05	3	208/230-1-60	93	22.5	1/2	3.8	1/2	3.8	Reheat	5	20.8	11.2	72.9	95	
MVA3G3AS05	3	208/230-3-60	77	11.4	1/2	2.2	1/2	2.2	Reheat	5	10.42	6.5	38.2	50	
MVA3G4AS05	3	460-3-60	39	5.7	1/2	1	1/2	1	Reheat	5	6.86	2.9	20.6	25	
MVA4G1AS10	4	208/230-1-60	125	30.7	3/4	5.8	3/4	5.8	Reheat	10	36.11	11.2	106.3	130	
MVA4G3AS10	4	208/230-3-60	99	15	3/4	3.2	3/4	3.2	Reheat	10	20.85	10.2	61.4	75	
MVA4G4AS10	4	460-3-60	49.5	8.2	3/4	1.5	3/4	1.5	Reheat	10	13.72	4.6	35	40	
MVA5G1AS10	5	208/230-1-60	142	34.3	3/4	5.8	1	7	Reheat	10	36.11	11.2	112	140	
MVA5G3AS10	5	208/230-3-60	123	19.3	3/4	3.2	1	3.4	Reheat	10	20.85	10.2	67	85	
MVA5G4AS10	5	460-3-60	62	10	3/4	1.5	1	1.6	Reheat	10	13.72	4.6	37.4	45	

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA8G3A15	8	208/230-3-60	99 ea.	15 ea.	1.5	5.0	2	6.5	Reheat	15	31.27	18.5	102.8	115	
MVA8G4A15	8	460-3-60	49.5 ea.	8.2 ea.	1.5	2.4	2	3.1	Reheat	15	20.58	8.4	58.1	65	
MVA10G3A15	10	208/230-3-60	123 ea.	19.3 ea.	1.5	5.0	3	8.8	Reheat	15	31.27	18.5	114.8	130	
MVA10G4A15	10	460-3-60	62 ea.	10 ea.	1.5	2.4	3	4.2	Reheat	15	20.58	8.4	63.2	70	

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA12G3A20	12(C)	208/230-3-60	156 ea.	20.7 ea.	3	8.8	5	13.5	Reheat	20	41.7	27.7	148.7	160	
MVA12G4A20	12(C)	460-3-60	70 ea.	10 ea.	3	4.2	5	6.5	Reheat	20	27.44	12.6	80.1	85	
MVA15G3A20	15(C)	208/230-3-60	169 ea.	26.2 ea.	3	8.8	5	13.5	Reheat	20	41.7	27.7	161.1	180	
MVA15G4A20	15(C)	460-3-60	94 ea.	14.3 ea.	3	4.2	5	6.5	Reheat	20	27.44	12.6	89.8	100	
MVA20G3A30	20(C)	208/230-3-60	255 ea.	38.5 ea.	3	8.8	5	13.5	Reheat	30	62.55	27.7	214.8	240	
MVA20G4A30	20(C)	460-3-60	127 ea.	18.8 ea.	3	4.2	5	6.5	Reheat	30	41.15	12.6	117	130	

Standard Motors^(F) Rated For 1" ESP on Evaporator and .25" ESP on Condenser^{(E)(G)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA25G3A30	25(C)	208/230-3-60	350 ea.	45.7 ea.	10	29.4	10	29.4	Reheat	30	62.55	27.7	267.5	300	
MVA25G4A30	25(C)	460-3-60	158 ea.	24.3 ea.	10	14	10	14	Reheat	30	41.15	12.6	146.7	165	

(A) All heaters nominally rated at 240 volts or 440 volts. Amps listed at 208 volts or 460 volts.

(B) All motors 1725 RPM inherently protected.

(C) Unit requires discharge plenum.

(D) Electrical data calculated based on all components being activated simultaneously.

(E) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(F) 10 HP Motors 1725 RPM with External Overloads.

(G) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower/motor performance and/or requirements.

(H) All single-phase units contain a hard start kit.

VERTICOOL Unit - Microprocessor Controlled Air-Cooled Unit^{(D)(E)(H)} Optional Motors^(B) Rated For 1" ESP^(G)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA3G1AS05	3	208/230-1-60	93	22.5	3/4	5.8	3/4	5.8	Reheat	5	20.8	11.2	76.9	95	
MVA3G3AS05	3	208/230-3-60	77	11.4	3/4	3.2	3/4	3.2	Reheat	5	10.42	6.5	40.2	50	
MVA3G4AS05	3	460-3-60	39	5.7	3/4	1.5	3/4	1.5	Reheat	5	6.86	2.9	21.6	30	
MVA4G1AS10	4	208/230-1-60	125	30.7	1	7	1	7	Reheat	10	36.11	11.2	108.7	135	
MVA4G3AS10	4	208/230-3-60	99	15	1	3.4	1	3.4	Reheat	10	20.85	10.2	61.8	75	
MVA4G4AS10	4	460-3-60	49.5	8.2	1	1.6	1	1.6	Reheat	10	13.72	4.6	35.2	40	
MVA5G1AS10	5	208/230-1-60	142	34.3	1	7	1.5	9.4	Reheat	10	36.11	11.2	115.6	145	
MVA5G3AS10	5	208/230-3-60	123	19.3	1	3.4	1.5	5	Reheat	10	20.85	10.2	68.8	85	
MVA5G4AS10	5	460-3-60	62	10	1	1.6	1.5	2.4	Reheat	10	13.72	4.6	38.3	45	

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA8G3A15	8	208/230-3-60	99 ea.	15 ea.	2	6.5	3	8.8	Reheat	15	31.27	18.5	106.6	115	
MVA8G4A15	8	460-3-60	49.5 ea.	8.2 ea.	2	3.1	3	4.2	Reheat	15	20.58	8.4	59.9	65	
MVA10G3A15	10	208/230-3-60	123 ea.	19.3 ea.	2	6.5	5	13.5	Reheat	15	31.27	18.5	121	135	
MVA10G4A15	10	460-3-60	62 ea.	10 ea.	2	3.1	5	6.5	Reheat	15	20.58	8.4	66.2	75	

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA12G3A20	12(C)	208/230-3-60	156 ea.	20.7 ea.	5	13.5	5	13.5	Reheat	20	41.7	27.7	153.4	165	
MVA12G4A20	12(C)	460-3-60	70 ea.	10 ea.	5	6.5	5	6.5	Reheat	20	27.44	12.6	82.4	90	
MVA15G3A20	15(C)	208/230-3-60	169 ea.	26.2 ea.	5	13.5	7.5	18	Reheat	20	41.7	27.7	170.3	190	
MVA15G4A20	15(C)	460-3-60	94 ea.	14.3 ea.	5	6.5	7.5	9	Reheat	20	27.44	12.6	94.6	105	
MVA20G3A30	20(C)	208/230-3-60	255 ea.	38.5 ea.	5	13.5	7.5	18	Reheat	30	62.55	27.7	224	250	
MVA20G4A30	20(C)	460-3-60	127 ea.	18.8 ea.	5	6.5	7.5	9	Reheat	30	41.15	12.6	121.8	135	

Optional Motors^(F) Rated For 1" ESP on Evaporator and .25" ESP on Condenser^{(E)(G)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used		Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA	As	As					
MVA25G3A30	25(C)	208/230-3-60	350 ea.	45.7 ea.	15	37.6	15	37.6	Reheat	30	62.55	27.7	283.9	315	
MVA25G4A30	25(C)	460-3-60	158 ea.	24.3 ea.	15	17	15	17	Reheat	30	41.15	12.6	152.7	170	

(A) All heaters nominally rated at 240 volts or 440 volts. Amps listed at 208 volts or 460 volts.

(B) Motors 5 HP and less 1725 RPM inherently protected. Motors 7.5 HP are 3450 externally protected.

(C) Unit requires discharge plenum.

(D) Electrical data calculated based on all components being activated simultaneously.

(E) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(F) 15 HP Motors 3450 RPM with External Overloads.

(G) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(H) All single-phase units contain a hard start kit.

VERTICOOL Unit - Air-Cooled w/Remote Condenser Electrical Data^{(D)(E)} Standard Motors^(A) Rated For .25" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
VAR3G1AS	3	208/230-1-60	93	22.5	1/2	3.8	---	---	---	---	---	---	31.9	55
VAR3G3AS	3	208/230-3-60	77	11.4	1/2	2.2	---	---	---	---	---	---	16.5	30
VAR3G4AS	3	460-3-60	39	5.7	1/2	1	---	---	---	---	---	---	8.1	15
VAR4G1AS	4	208/230-1-60	125	30.7	3/4	5.8	---	---	---	---	---	---	44.2	75
VAR4G3AS	4	208/230-3-60	99	15	3/4	3.2	---	---	---	---	---	---	22	40
VAR4G4AS	4	460-3-60	49.5	8.2	3/4	1.5	---	---	---	---	---	---	11.8	20
VAR5G1AS	5	208/230-1-60	142	34.3	3/4	5.8	---	---	---	---	---	---	48.7	85
VAR5G3AS	5	208/230-3-60	123	19.3	3/4	3.2	---	---	---	---	---	---	27.3	50
VAR5G4AS	5	460-3-60	62	10	3/4	1.5	---	---	---	---	---	---	14	25

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
VAR8G3A	8	208/230-3-60	99 ea.	15 ea.	1.5	5.0	---	---	---	---	---	---	38.8	55
VAR8G4A	8	460-3-60	49.5 ea.	8.2 ea.	1.5	2.4	---	---	---	---	---	---	20.9	30
VAR10G3A	10	208/230-3-60	123 ea.	19.3 ea.	1.5	5.0	---	---	---	---	---	---	48.4	70
VAR10G4A	10	460-3-60	62 ea.	10 ea.	1.5	2.4	---	---	---	---	---	---	24.9	35

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
VAR12G3A	12	208/230-3-60	156 ea.	20.7 ea.	3	8.8	---	---	---	---	---	---	55.4	80
VAR12G4A	12	460-3-60	70 ea.	10 ea.	3	4.2	---	---	---	---	---	---	26.7	40
VAR15G3A	15	208/230-3-60	169 ea.	26.2 ea.	3	8.8	---	---	---	---	---	---	67.8	95
VAR15G4A	15	460-3-60	94 ea.	14.3 ea.	3	4.2	---	---	---	---	---	---	36.4	55
VAR20G3A	20	208/230-3-60	255 ea.	38.5 ea.	3	8.8	---	---	---	---	---	---	95.4	135
VAR20G4A	20	460-3-60	127 ea.	18.8 ea.	3	4.2	---	---	---	---	---	---	46.5	70

Standard Motors^(B) Rated For 1" ESP on Evaporator^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
VAR25G3A	25	208/230-3-60	350 ea.	45.7 ea.	10	29.4	---	---	---	---	---	---	132.2	180
VAR25G4A	25	460-3-60	158 ea.	24.3 ea.	10	14	---	---	---	---	---	---	84.1	110

(A) All motors 1725 RPM inherently protected.

(B) 10 HP Motors 1725 RPM with External Overloads.

(C) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Air-Cooled w/Remote Condenser Electrical Data^{(D)(E)} Optional Motors^(A) Rated For 1" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As					
VAR3G1AS	3	208/230-1-60	93	22.5	3/4	5.8	---	---	---	---	---	---	33.9	60
VAR3G3AS	3	208/230-3-60	77	11.4	3/4	3.2	---	---	---	---	---	---	17.5	30
VAR3G4AS	3	460-3-60	39	5.7	3/4	1.5	---	---	---	---	---	---	8.6	15
VAR4G1AS	4	208/230-1-60	125	30.7	1	7	---	---	---	---	---	---	45.4	80
VAR4G3AS	4	208/230-3-60	99	15	1	3.4	---	---	---	---	---	---	22.2	40
VAR4G4AS	4	460-3-60	49.5	8.2	1	1.6	---	---	---	---	---	---	11.9	25
VAR5G1AS	5	208/230-1-60	142	34.3	1	7	---	---	---	---	---	---	49.9	85
VAR5G3AS	5	208/230-3-60	123	19.3	1	3.4	---	---	---	---	---	---	27.5	50
VAR5G4AS	5	460-3-60	62	10	1	1.6	---	---	---	---	---	---	14.1	25

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As					
VAR8G3A	8	208/230-3-60	99 ea.	15 ea.	2	6.5	---	---	---	---	---	---	40.3	60
VAR8G4A	8	460-3-60	49.5 ea.	8.2 ea.	2	3.1	---	---	---	---	---	---	21.6	30
VAR10G3A	10	208/230-3-60	123 ea.	19.3 ea.	2	6.5	---	---	---	---	---	---	49.9	70
VAR10G4A	10	460-3-60	62 ea.	10 ea.	2	3.1	---	---	---	---	---	---	25.6	40

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER	Nom. KW	AMPS	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As					
VAR12G3A	12	208/230-3-60	156 ea.	20.7 ea.	5	13.5	---	---	---	---	---	---	60.1	85
VAR12G4A	12	460-3-60	70 ea.	10 ea.	5	6.5	---	---	---	---	---	---	29	40
VAR15G3A	15	208/230-3-60	169 ea.	26.2 ea.	5	13.5	---	---	---	---	---	---	72.5	100
VAR15G4A	15	460-3-60	94 ea.	14.3 ea.	5	6.5	---	---	---	---	---	---	38.7	55
VAR20G3A	20	208/230-3-60	255 ea.	38.5 ea.	5	13.5	---	---	---	---	---	---	100.1	140
VAR20G4A	20	460-3-60	127 ea.	18.8 ea.	5	6.5	---	---	---	---	---	---	48.8	70

Optional Motors^(B) Rated For 2" ESP on Evaporator^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER	Nom. KW	AMPS	HUMID AMPS	CIRCUIT AMPACITY	MIN. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA	Used As					
VAR25G3A	25	208/230-3-60	350 ea.	45.7 ea.	15	37.6	---	---	---	---	---	---	140.4	190
VAR25G4A	25	460-3-60	158 ea.	24.3 ea.	15	17	---	---	---	---	---	---	71.7	100

(A) All motors 1725 RPM inherently protected

(B) 15 HP Motors 3450 RPM with External Overloads

(C) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Microprocessor Air-Cooled w/Remote Condenser

Electrical Data^{(D)(E)(H)} Standard Motors^(B) Rated For .25” ESP^(G)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR3G1AS05	3	208/230-1-60	93	22.5	1/2	3.8	---	---	Reheat	5	20.8	11.2	69.1	90
MVAR3G3AS05	3	208/230-3-60	77	11.4	1/2	2.2	---	---	Reheat	5	10.42	6.5	36	45
MVAR3G4AS05	3	460-3-60	39	5.7	1/2	1	---	---	Reheat	5	6.86	2.9	19.6	25
MVAR4G1AS10	4	208/230-1-60	125	30.7	3/4	5.8	---	---	Reheat	10	36.11	11.2	100.5	125
MVAR4G3AS10	4	208/230-3-60	99	15	3/4	3.2	---	---	Reheat	10	20.85	10.2	58.2	70
MVAR4G4AS10	4	460-3-60	49.5	8.2	3/4	1.5	---	---	Reheat	10	13.72	4.6	33.5	40
MVAR5G1AS10	5	208/230-1-60	142	34.3	3/4	5.8	---	---	Reheat	10	36.11	11.2	105	135
MVAR5G3AS10	5	208/230-3-60	123	19.3	3/4	3.2	---	---	Reheat	10	20.85	10.2	63.6	80
MVAR5G4AS10	5	460-3-60	62	10	3/4	1.5	---	---	Reheat	10	13.72	4.6	35.8	45

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR8G3A15	8	208/230-3-60	99 ea	15 ea	1.5	5.0	---	---	Reheat	15	31.27	18.5	96.3	105
MVAR8G4A15	8	460-3-60	49.5 ea	8.2 ea	1.5	2.4	---	---	Reheat	15	20.58	8.4	55	60
MVAR10G3A15	10	208/230-3-60	123 ea	19.3 ea	1.5	5.0	---	---	Reheat	15	31.27	18.5	106	120
MVAR10G4A15	10	460-3-60	62 ea	10 ea	1.5	2.4	---	---	Reheat	15	20.58	8.4	59	65

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR12G3A20	12(C)	208/230-3-60	156 ea	20.7 ea	3	8.8	---	---	Reheat	20	41.7	27.7	135.2	150
MVAR12G4A20	12(C)	460-3-60	70 ea	10 ea	3	4.2	---	---	Reheat	20	27.44	12.6	73.6	80
MVAR15G3A20	15(C)	208/230-3-60	169 ea	26.2 ea	3	8.8	---	---	Reheat	20	41.7	27.7	147.6	165
MVAR15G4A20	15(C)	460-3-60	94 ea	14.3 ea	3	4.2	---	---	Reheat	20	27.44	12.6	83.3	95
MVAR20G3A30	20(C)	208/230-3-60	255 ea	38.5 ea	3	8.8	---	---	Reheat	30	62.55	27.7	201.3	225
MVAR20G4A30	20(C)	460-3-60	127 ea	18.8 ea	3	4.2	---	---	Reheat	30	41.15	12.6	110.5	120

Standard Motors^(F) Rated For 1” ESP on Evaporator^{(E)(G)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR25G3A30	25(C)	208/230-3-60	350 ea	45.7 ea	10	29.4	---	---	Reheat	30	62.55	27.7	238.1	270
MVAR25G4A30	25(C)	460-3-60	158 ea	24.3 ea	10	14	---	---	Reheat	30	41.15	12.6	132.7	150

(A) All heaters nominally rated at 240 volts or 440 volts. Amps listed at 208 volts or 460 volts.

(B) All motors 1725 RPM inherently protected

(C) Unit requires discharge plenum

(D) Electrical data calculated based on all components being activated simultaneously.

(E) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(F) 10 HP Motors 1725 RPM with External Overloads

(G) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(H) All single-phase units contain a hard start kit.

VERTICOOL Unit - Microprocessor Air-Cooled w/Remote Condenser

Electrical Data^{(D)(E)(H)} Optional Motors^(B) Rated For 1" ESP^(G)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	HUMID AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR3G1AS05	3	208/230-1-60	93	22.5	3/4	5.8	---	---	Reheat	5	20.8	11.2	71.1	90
MVAR3G3AS05	3	208/230-3-60	77	11.4	3/4	3.2	---	---	Reheat	5	10.42	6.5	37	50
MVAR3G4AS05	3	460-3-60	39	5.7	3/4	1.5	---	---	Reheat	5	6.86	2.9	20.1	25
MVAR4G1AS10	4	208/230-1-60	125	30.7	1	7	---	---	Reheat	10	36.11	11.2	101.7	125
MVAR4G3AS10	4	208/230-3-60	99	15	1	3.4	---	---	Reheat	10	20.85	10.2	58.4	70
MVAR4G4AS10	4	460-3-60	49.5	8.2	1	1.6	---	---	Reheat	10	13.72	4.6	33.6	40
MVAR5G1AS10	5	208/230-1-60	142	34.3	1	7	---	---	Reheat	10	36.11	11.2	106.2	135
MVAR5G3AS10	5	208/230-3-60	123	19.3	1	3.4	---	---	Reheat	10	20.85	10.2	63.8	80
MVAR5G4AS10	5	460-3-60	62	10	1	1.6	---	---	Reheat	10	13.72	4.6	35.9	45

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	HUMID AMPS(A)	CIRCUIT AMPS	MIN. FUZE AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR8G3A15	8	208/230-3-60	99 ea	15 ea	2	6.5	---	---	Reheat	15	31.27	18.5	97.8	110
MVAR8G4A15	8	460-3-60	49.5 ea	8.2 ea	2	3.1	---	---	Reheat	15	20.58	8.4	55.7	60
MVAR10G3A15	10	208/230-3-60	123 ea	19.3 ea	2	6.5	---	---	Reheat	15	31.27	18.5	107.5	120
MVAR10G4A15	10	460-3-60	62 ea	10 ea	2	3.1	---	---	Reheat	15	20.58	8.4	59.7	65

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	HUMID AMPS(A)	CIRCUIT AMPS	MIN. FUZE AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR12G3A20	12(C)	208/230-3-60	156 ea	20.7 ea	5	13.5	---	---	Reheat	20	41.7	27.7	139.9	155
MVAR12G4A20	12(C)	460-3-60	70 ea	10 ea	5	6.5	---	---	Reheat	20	27.44	12.6	75.9	80
MVAR15G3A20	15(C)	208/230-3-60	169 ea	26.2 ea	5	13.5	---	---	Reheat	20	41.7	27.7	152.3	170
MVAR15G4A20	15(C)	460-3-60	94 ea	14.3 ea	5	6.5	---	---	Reheat	20	27.44	12.6	85.6	95
MVAR20G3A30	20(C)	208/230-3-60	255 ea	38.5 ea	5	13.5	---	---	Reheat	30	62.55	27.7	206	230
MVAR20G4A30	20(C)	460-3-60	127 ea	18.8 ea	5	6.5	---	---	Reheat	30	41.15	12.6	112.8	125

Optional Motors^(F) Rated For 1" ESP on Evaporator^{(E)(G)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		COND. MOTOR		HEATER Used As	Nom. KW	HUMID AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA	HP	FLA						
MVAR25G3A30	25(C)	208/230-3-60	350 ea	45.7 ea	15	37.6	---	---	Reheat	30	62.55	27.7	246.3	280
MVAR25G4A30	25(C)	460-3-60	158 ea	24.3 ea	15	17	---	---	Reheat	30	41.15	12.6	135.7	150

(A) All heaters nominally rated at 240 volts or 440 volts. Amps listed at 208 volts or 460 volts.

(B) Motors 5 HP and less 1725 RPM inherently protected. Motors 7.5 HP are 3450 externally protected.

(C) Unit requires discharge plenum

(D) Electrical data calculated based on all components being activated simultaneously.

(E) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(F) 15 HP Motors 3450 RPM with External Overloads

(G) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(H) All single-phase units contain a hard start kit.

VERTICOOL Unit - Air-Cooled Remote Condensing Units Electrical Data^{(D)(E)} Standard Motors^(A) Rated For .25" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA3G1AS	3	208/230-1-60	93	22.5	1/2	3.8	31.9	55
BVA3G3AS	3	208/230-3-60	77	11.4	1/2	2.2	16.5	30
BVA3G4AS	3	460-3-60	39	5.7	1/2	1	8.1	15
BVA4G1AS	4	208/230-1-60	125	30.7	3/4	5.8	44.2	75
BVA4G3AS	4	208/230-3-60	99	15	3/4	3.2	22	40
BVA4G4AS	4	460-3-60	49.5	8.2	3/4	1.5	11.8	20
BVA5G1AS	5	208/230-1-60	142	34.3	1	7	49.9	85
BVA5G3AS	5	208/230-3-60	123	19.3	1	3.4	27.5	50
BVA5G4AS	5	460-3-60	62	10	1	1.6	14.1	25

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA8G3A	8	208/230-3-60	99 ea	15 ea	2	6.5	40.3	60
BVA8G4A	8	460-3-60	49.5 ea	8.2 ea	2	3.1	21.6	30
BVA10G3A	10	208/230-3-60	123 ea	19.3 ea	3	8.8	52.2	75
BVA10G4A	10	460-3-60	62 ea	10 ea	3	4.2	26.7	40

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA12G3A	12	208/230-3-60	156 ea	20.7 ea	5	13.5	60.1	85
BVA12G4A	12	460-3-60	70 ea	10 ea	5	6.5	29	40
BVA15G3A	15	208/230-3-60	169 ea	26.2 ea	5	13.5	72.5	100
BVA15G4A	15	460-3-60	94 ea	14.3 ea	5	6.5	38.7	55
BVA20G3A	20	208/230-3-60	255 ea	38.5 ea	5	13.5	100.1	140
BVA20G4A	20	460-3-60	127 ea	18.8 ea	5	6.5	48.8	70

Standard Motors^(B) Rated For .25" ESP on Condenser^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA25G3A	25	208/230-3-60	350 ea	45.7 ea	10	29.4	132.2	180
BVA25G4A	25	460-3-60	158 ea	24.3 ea	10	14	68.7	95

(A) All motors 1725 RPM inherently protected

(B) 10 HP Motors 1725 RPM with External Overloads

(C) ESP performance may be impacted by addition or inclusion of options. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Air-Cooled Remote Condensing Units Electrical Data^{(D)(E)} Optional Motors^(A) Rated For 1" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA3G1AS	3	208/230-1-60	93	22.5	3/4	5.8	33.9	60
BVA3G3AS	3	208/230-3-60	77	11.4	3/4	3.2	17.5	30
BVA3G4AS	3	460-3-60	39	5.7	3/4	1.5	8.6	15
BVA4G1AS	4	208/230-1-60	125	30.7	1	7	45.4	100
BVA4G3AS	4	208/230-3-60	99	15	1	3.4	22.2	40
BVA4G4AS	4	460-3-60	49.5	8.2	1	1.6	11.9	25
BVA5G1AS	5	208/230-1-60	142	34.3	1.5	9.4	52.3	90
BVA5G3AS	5	208/230-3-60	123	19.3	1.5	5	29.1	50
BVA5G4AS	5	460-3-60	62	10	1.5	2.4	14.9	25

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA8G3A	8	208/230-3-60	99 ea	15 ea	3	8.8	42.6	60
BVA8G4A	8	460-3-60	49.5 ea	8.2 ea	3	4.2	22.7	35
BVA10G3A	10	208/230-3-60	123 ea	19.3 ea	5	13.5	56.9	80
BVA10G4A	10	460-3-60	62 ea	10 ea	5	6.5	29	40

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA12G3A	12	208/230-3-60	156 ea	20.7 ea	5	13.5	60.1	85
BVA12G4A	12	460-3-60	70 ea	10 ea	5	6.5	29	40
BVA15G3A	15	208/230-3-60	169 ea	26.2 ea	7.5	18	77	105
BVA15G4A	15	460-3-60	94 ea	14.3 ea	7.5	9	41.2	60
BVA20G3A	20	208/230-3-60	255 ea	38.5 ea	7.5	18	104.6	145
BVA20G4A	20	460-3-60	127 ea	18.8 ea	7.5	9	51.3	75

Optional Motors^(B) Rated For 1" ESP on Condenser^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		COND. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
BVA25G3A	25	208/230-3-60	350 ea	45.7 ea	15	37.6	140.4	190
BVA25G4A	25	460-3-60	158 ea	24.3 ea	15	17	71.7	100

(A) All motors 1725 RPM inherently protected

(B) 15 HP Motors 3450 RPM with External Overloads

(C) ESP performance may be impacted by addition or inclusion of options. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Water-Cooled Unit Performance Data

3-5 Ton - Single Compressor Performance Data:

Model No.	Entering Air Temp		Entering Water		GPM	Pressure Drop PSI (4)	CFM
	DB	WB	85°F				
			Total	Sensible			
VW3G	86	72	43,800	32,650	9	6.4	1,200
	80	67	40,300	31,000			
	75	62.5	37,050	30,500			
	72	60	36,000	30,100			
VW4G	86	72	56,000	41,900	12	8.8	1,600
	80	67	51,800	40,700			
	75	62.5	48,000	39,900			
	72	60	46,000	39,200			
VW5G	86	72	67,000	51,200	15	10.2	2,000
	80	67	62,500	49,850			
	75	62.5	58,200	49,200			
	72	60	56,600	48,650			

8-10 Ton - Dual Compressor Performance

Model No.	Entering Air Temp		Entering Water		GPM	Pressure Drop PSI (4)	CFM
	DB	WB	85°F				
			Total	Sensible			
VW8G	86	72	116,000	85,000	24	8.8	3,200
	80	67	108,500	83,300			
	75	62.5	103,000	82,900			
	72	60	98,900	81,550			
VW10G	86	72	146,400	104,500	30	10.2	4,000
	80	67	131,200	102,350			
	75	62.5	124,600	102,150			
	72	60	108,000	84,000			

12-20 Ton - Dual Compressor Performance

Model No.	Entering Air Temp		Entering Water		GPM	Pressure Drop PSI (4)	CFM
	DB	WB	85°F				
			Total	Sensible			
VW12G	86	72	177,000	128,850	36	8.8	4,800
	80	67	163,000	124,950			
	75	62.5	155,400	124,000			
	72	60	147,600	121,800			
VW15G	86	72	214,000	158,200	45	14.0	6,000
	80	67	203,500	156,200			
	75	62.5	187,000	153,550			
	72	60	180,300	150,600			
VW20G	86	72	280,000	208,650	60	10.95	8,000
	80	67	270,000	207,750			
	75	62.5	248,500	203,860			
	72	60	239,800	200,350			

25 Ton - Dual Compressor Performance

Model No.	Entering Air Temp		Entering Water		GPM	Pressure Drop PSI (4)	CFM
	DB	WB	85°F				
			Total	Sensible			
VW25G	86	72	330,000	220,900	75	13	10,000
	80	67	320,000	220,000			
	75	62.5	294,500	215,800			
	72	60	284,200	212,100			

Notes:

1. Capacities are Gross values and are not adjusted for motor heat.
2. Some refrigeration circuit components may impact on unit capacities.
3. Applications with water conditions 75o F and lower may require additional refrigerant circuit considerations. Consult factory with details.
4. Does not include valve(s).

VERTICOOL Unit - Water-Cooled Unit^{(D)(E)} Electrical Data Standard Motors^(A) Rated For .25" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW3G1AS	3	208/230-1-60	93	22.5	1/2	3.8	31.9	55
VW3G3AS	3	208/230-3-60	77	11.4	1/2	2.2	16.5	30
VW3G4AS	3	460-3-60	39	5.7	1/2	1	8.1	15
VW4G1AS	4	208/230-1-60	125	30.7	3/4	5.8	44.2	75
VW4G3AS	4	208/230-3-60	99	15	3/4	3.2	22	40
VW4G4AS	4	460-3-60	49.5	8.2	3/4	1.5	11.8	20
VW5G1AS	5	208/230-1-60	142	34.3	3/4	5.8	48.7	85
VW5G3AS	5	208/230-3-60	123	19.3	3/4	3.2	27.3	50
VW5G4AS	5	460-3-60	62	10	3/4	1.5	14	25

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW8G3A	8	208/230-3-60	99 ea	15 ea	1.5	5.0	38.8	55
VW8G4A	8	460-3-60	49.5 ea	8.2 ea	1.5	2.4	20.9	30
VW10G3A	10	208/230-3-60	123 ea	19.3 ea	1.5	5.0	48.4	70
VW10G4A	10	460-3-60	62 ea	10 ea	1.5	2.4	24.9	35

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW12G3A	12	208/230-3-60	156 ea	20.7 ea	3	8.8	55.4	80
VW12G4A	12	460-3-60	70 ea	10 ea	3	4.2	26.7	40
VW15G3A	15	208/230-3-60	169 ea	26.2 ea	3	8.8	67.8	95
VW15G4A	15	460-3-60	94 ea	14.3 ea	3	4.2	36.4	55
VW20G3A	20	208/230-3-60	255 ea	38.5 ea	3	8.8	95.4	135
VW20G4A	20	460-3-60	127 ea	18.8 ea	3	4.2	46.5	70

Standard Motors^(B) Rated For 1" ESP on Evaporator^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW25G3A	25	208/230-3-60	350 ea	45.7 ea	10	29.4	132.2	180
VW25G4A	25	460-3-60	158 ea	24.3 ea	10	14	68.7	95

(A) All motors 1725 RPM inherently protected

(B) 10 HP Motors 1725 RPM with External Overloads

(C) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Water-Cooled Unit^{(D)(E)} Electrical Data Optional Motors^(A) Rated For 1" ESP^(C)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW3G1AS	3	208/230-1-60	93	22.5	3/4	5.8	33.9	60
VW3G3AS	3	208/230-3-60	77	11.4	3/4	3.2	17.5	30
VW3G4AS	3	460-3-60	39	5.7	3/4	1.5	8.6	15
VW4G1AS	4	208/230-1-60	125	30.7	1	7	45.4	80
VW4G3AS	4	208/230-3-60	99	15	1	3.4	22.2	40
VW4G4AS	4	460-3-60	49.5	8.2	1	1.6	11.9	25
VW5G1AS	5	208/230-1-60	142	34.3	1	7	49.9	85
VW5G3AS	5	208/230-3-60	123	19.3	1	3.4	27.5	50
VW5G4AS	5	460-3-60	62	10	1	1.6	14.1	25

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW8G3A	8	208/230-3-60	99 ea	15 ea	2	6.5	40.3	60
VW8G4A	8	460-3-60	49.5 ea	8.2 ea	2	3.1	21.6	30
VW10G3A	10	208/230-3-60	123 ea	19.3 ea	2	6.5	49.9	70
VW10G4A	10	460-3-60	62 ea	10 ea	2	3.1	25.6	40

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW12G3A	12	208/230-3-60	156 ea	20.7 ea	5	13.5	60.1	85
VW12G4A	12	460-3-60	70 ea	10 ea	5	6.5	29	40
VW15G3A	15	208/230-3-60	169 ea	26.2 ea	5	13.5	72.5	100
VW15G4A	15	460-3-60	94 ea	14.3 ea	5	6.5	38.7	55
VW20G3A	20	208/230-3-60	255 ea	38.5 ea	5	13.5	100.1	140
VW20G4A	20	460-3-60	127 ea	18.8 ea	5	6.5	48.8	70

Optional Motors^(B) Rated For 2" ESP on Evaporator^{(C)(D)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE
			LRA	RLA	HP	FLA		
VW25G3A	25	208/230-3-60	350 ea	45.7 ea	15	37.6	140.4	190
VW25G4A	25	460-3-60	158 ea	24.3 ea	15	17	71.7	100

(A) All motors 1725 RPM inherently protected

(B) 15 HP Motors 3450 RPM with External Overloads

(C) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(D) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(E) All single-phase units contain a hard start kit.

VERTICOOL Unit - Microprocessor Water-Cooled^{(D)(E)(H)} Electrical Data Standard Motors^(B) Rated For .25" ESP^(G)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW3G1AS05	3	208/230-1-60	93	22.5	1/2	3.8	Reheat	5	20.8	11.2	69.1	90
MVW3G3AS05	3	208/230-3-60	77	11.4	1/2	2.2	Reheat	5	10.42	6.5	36	45
MVW3G4AS05	3	460-3-60	39	5.7	1/2	1	Reheat	5	6.86	2.9	19.6	25
MVW4G1AS10	4	208/230-1-60	125	30.7	3/4	5.8	Reheat	10	36.11	11.2	100.5	125
MVW4G3AS10	4	208/230-3-60	99	15	3/4	3.2	Reheat	10	20.85	10.2	58.2	70
MVW4G4AS10	4	460-3-60	49.5	8.2	3/4	1.5	Reheat	10	13.72	4.6	33.5	40
MVW5G1AS10	5	208/230-1-60	142	34.3	3/4	5.8	Reheat	10	36.11	11.2	105	135
MVW5G3AS10	5	208/230-3-60	123	19.3	3/4	3.2	Reheat	10	20.85	10.2	63.6	80
MVW5G4AS10	5	460-3-60	62	10	3/4	1.5	Reheat	10	13.72	4.6	35.8	45

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW8G3A15	8	208/230-3-60	99 ea	15 ea	1.5	5.0	Reheat	15	31.27	18.5	96.3	105
MVW8G4A15	8	460-3-60	49.5 ea	8.2 ea	1.5	2.4	Reheat	15	20.58	8.4	55	60
MVW10G3A15	10	208/230-3-60	123 ea	19.3 ea	1.5	5.0	Reheat	15	31.27	18.5	106	120
MVW10G4A15	10	460-3-60	62 ea	10 ea	1.5	2.4	Reheat	15	20.58	8.4	59	65

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW12G3A20	12(C)	208/230-3-60	156 ea	20.7 ea	3	8.8	Reheat	20	41.7	27.7	135.2	150
MVW12G4A20	12(C)	460-3-60	70 ea	10 ea	3	4.2	Reheat	20	27.44	12.6	73.6	80
MVW15G3A20	15(C)	208/230-3-60	169 ea	26.2 ea	3	8.8	Reheat	20	41.7	27.7	147.6	165
MVW15G4A20	15(C)	460-3-60	94 ea	14.3 ea	3	4.2	Reheat	20	27.44	12.6	83.3	95
MVW20G3A30	20(C)	208/230-3-60	255 ea	38.5 ea	3	8.8	Reheat	30	62.55	27.7	201.3	225
MVW20G4A30	20(C)	460-3-60	127 ea	18.8 ea	3	4.2	Reheat	30	41.15	12.6	110.5	120

Standard Motors^(F) Rated For 1" ESP^{(E)(G)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW25G3A30	25(C)	208/230-3-60	350 ea	45.7 ea	10	29.4	Reheat	30	62.55	27.7	238.1	270
MVW25G4A30	25(C)	460-3-60	158 ea	24.3 ea	10	14	Reheat	30	41.15	12.6	132.7	150

(A) All heaters nominally rated at 240 volts or 440 volts. Amps listed at 208 volts or 460 volts.

(B) All motors 1725 RPM inherently protected

(C) Unit requires discharge plenum

(D) Electrical data calculated based on all components being activated simultaneously.

(E) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

(F) 10 HP Motors 1725 RPM with External Overloads

(G) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

(H) All single-phase units contain a hard start kit.

VERTICOOL Unit - Microprocessor Water-Cooled^{(D)(E)(H)} Electrical Data Optional Motors^(B) Rated For 1" ESP^(G)

3 - 5 Ton Units - Single Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW3G1AS05	3	208/230-1-60	93	22.5	3/4	5.8	Reheat	5	20.8	11.2	71.1	90
MVW3G3AS05	3	208/230-3-60	77	11.4	3/4	3.2	Reheat	5	10.42	6.5	37	50
MVW3G4AS05	3	460-3-60	39	5.7	3/4	1.5	Reheat	5	6.86	2.9	20.1	25
MVW4G1AS10	4	208/230-1-60	125	30.7	1	7	Reheat	10	36.11	11.2	101.7	125
MVW4G3AS10	4	208/230-3-60	99	15	1	3.4	Reheat	10	20.85	10.2	58.4	70
MVW4G4AS10	4	460-3-60	49.5	8.2	1	1.6	Reheat	10	13.72	4.6	33.6	40
MVW5G1AS10	5	208/230-1-60	142	34.3	1	7	Reheat	10	36.11	11.2	102.6	130
MVW5G3AS10	5	208/230-3-60	123	19.3	1	3.4	Reheat	10	20.85	10.2	63.8	80
MVW5G4AS10	5	460-3-60	62	10	1	1.6	Reheat	10	13.72	4.6	35.9	45

8 - 10 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW8G3A15	8	208/230-3-60	99 ea	15 ea	2	6.5	Reheat	15	31.27	18.5	97.8	110
MVW8G4A15	8	460-3-60	49.5 ea	8.2 ea	2	3.1	Reheat	15	20.58	8.4	55.7	60
MVW10G3A15	10	208/230-3-60	123 ea	19.3 ea	2	6.5	Reheat	15	31.27	18.5	107.5	120
MVW10G4A15	10	460-3-60	62 ea	10 ea	2	3.1	Reheat	15	20.58	8.4	59.7	65

12 - 20 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW12G3A20	12 (c)	208/230-3-60	156 ea	20.7 ea	5	13.5	Reheat	20	41.7	27.7	139.9	155
MVW12G4A20	12 (c)	460-3-60	70 ea	10 ea	5	6.5	Reheat	20	27.44	12.6	75.9	80
MVW15G3A20	15 (c)	208/230-3-60	169 ea	26.2 ea	5	13.5	Reheat	20	41.7	27.7	152.3	170
MVW15G4A20	15 (c)	460-3-60	94 ea	14.3 ea	5	6.5	Reheat	20	27.44	12.6	85.6	95
MVW20G3A30	20 (c)	208/230-3-60	255 ea	38.5 ea	5	13.5	Reheat	30	62.55	27.7	206	230
MVW20G4A30	20 (c)	460-3-60	127 ea	18.8 ea	5	6.5	Reheat	30	41.15	12.6	112.8	125

Optional Motors^(F) Rated For 2" ESP on Evaporator^{(D)(G)}

25 Ton Units - Dual Compressor

MODEL NO.	TONS	VOLTAGE	COMPRESSOR		EVAP. MOTOR		HEATER Used As	Nom. KW	AMPS(A)	HUMID AMPS	MIN. CIRCUIT AMPACITY	MAX. FUZE SIZE
			LRA	RLA	HP	FLA						
MVW25G3A30	25 (c)	208/230-3-60	350 ea	45.7 ea	15	37.6	Reheat	30	62.55	27.7	246.3	280
MVW25G4A30	25 (c)	460-3-60	158 ea	24.3 ea	15	17	Reheat	30	41.15	12.6	135.7	150

(A) All heaters nominally rated at 240 volts or 440 volts. Amps listed at 208 volts or 460 volts.

(B) All motors 1725 RPM inherently protected

(C) Unit requires discharge plenum

(D) Electrical data calculated based on all components being activated simultaneously.

(E) Values shown are the most typical or severe and may vary slightly depending on the components supplied.

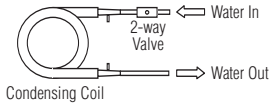
(F) 15 HP Motors 3450 RPM with External Overloads

(G) External Static Pressure (ESP) based on air path configuration 'B'. Other air path configurations may reduce available ESP. ESP performance impacted by addition or inclusion of options, such as upgraded filters, in the air stream. Contact factory for blower / motor performance and / or requirements.

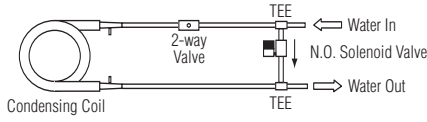
(H) All single-phase units contain a hard start kit.

Water-Cooled Piping Arrangement

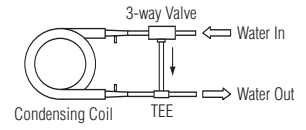
2-Way Single Circuit



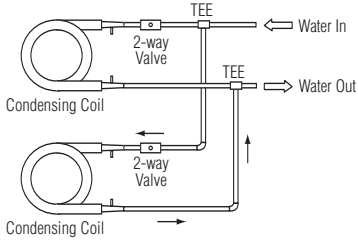
2-Way Single Circuit with Bypass



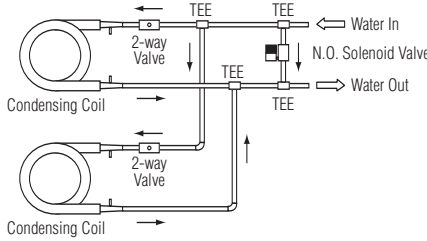
3-Way Single Circuit



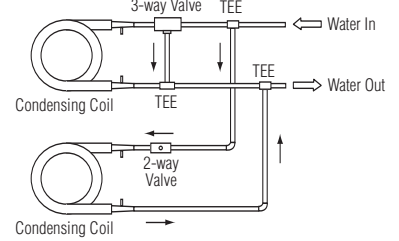
2-Way Dual Circuit



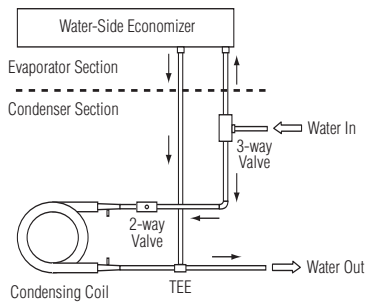
2-Way Dual Circuit with Bypass



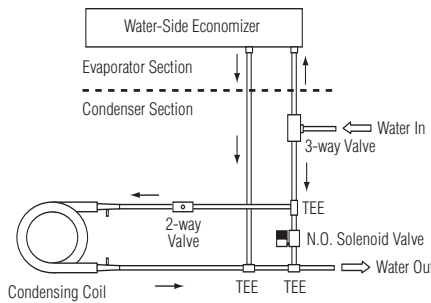
3-Way Dual Circuit



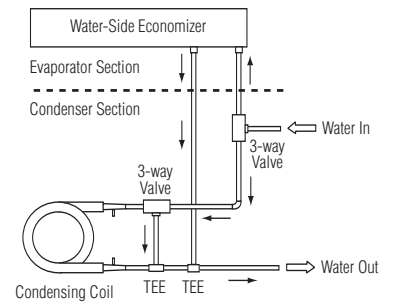
2-Way Single Circuit with Water-Side Economizer



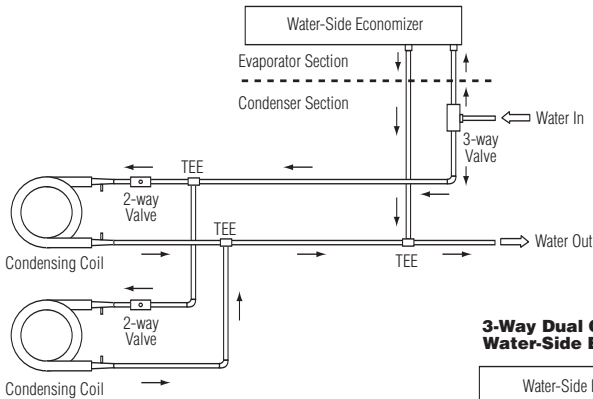
2-Way Single Circuit with Bypass and Water-Side Economizer



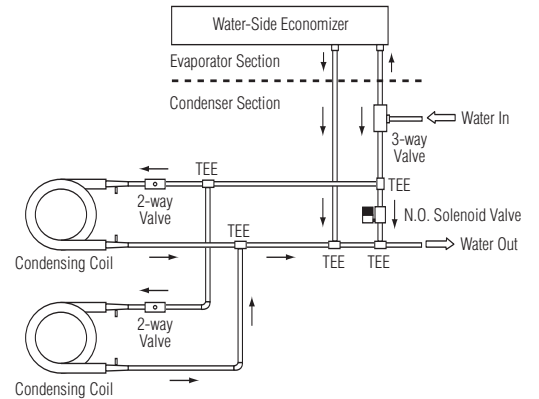
3-Way Single Circuit with Water-Side Economizer



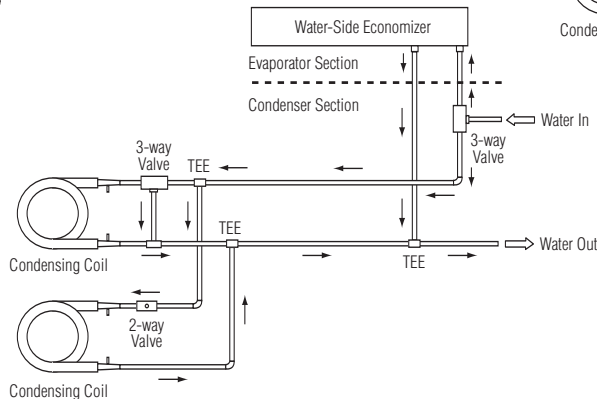
2-Way Dual Circuit with Water-Side Economizer



2-Way Dual Circuit with Bypass and Water-Side Economizer



3-Way Dual Circuit with Water-Side Economizer



Water Valve Sizing

Tons	No. of Circuits	3/4"	1"	1-1/4"	1-1/2"
3	Single	1			
4	Single	1			
5	Single		1		
8	Dual	2			
10	Dual		2		
12	Dual			2	
15	Dual			2	
20	Dual			2	
25	Dual				2

Water Connections

Tons	Female Pipe Thread - FTP
3	3/4
4	3/4
5	1
8	1
10	1-1/4
12	1-1/4
15	1-1/2
20	2-1/4
25	2-1/4

Notes

- Standard valves are two-way 150 psig.
- Optional valves:
 - two-way 350 psig
 - three-way 150 psig
 - three-way 350 psig
 - two-way NO solenoid valve bypass with two-way valve in lieu of three-way
- Three-way valve is only placed on lead circuit of multi-circuit units.
- Water-cooled units are designed for 85° EWT. If water temperature is below 75° or over 95°, contact factory.
- Nominal 3 GPM/Ton.
- As a general rule, glycol use de-rates the unit approximately 15% (based on use of 40% ethylene glycol in the unit).
- Valve settings have head pressure set at 235 psi.
- Units with free-cooling coil (water-side economizer) also need the valve for this option changed when using the 350 psig water regulating valve.
- Standard heat exchangers are coaxial with counterflow design.
- United CoolAir uses propylene glycol when testing all water-cooled units. When shipped, the water circuit may still have a little glycol inside. The water circuit should be flushed with water at the job site before being hooked up to the actual loop.
- The Normally Open (NO) solenoid bypass valve is only available for 150 psig applications.

Correction Factor to Total Cooling Capacity for Change in Water Temperature and/or Flow Rate

Water Temp. Entering	GPM %			
	65	95	100	118
45	1.074	1.107	1.112	1.132
50	1.060	1.091	1.098	1.118
55	1.046	1.074	1.084	1.103
60	1.032	1.058	1.070	1.089
65	1.018	1.041	1.056	1.074
70	1.005	1.025	1.042	1.060
75	0.992	1.015	1.028	1.046
80	0.978	1.005	1.014	1.031
85	0.965	0.995	1.000	1.017
90	0.921	0.950	0.955	0.971
95	0.878	0.905	0.910	0.926
100	0.834	0.860	0.865	0.880
105	0.790	0.815	0.820	0.834

UNITED COOLAIR'S PRECISE ENVIRONMENTAL CONTROL PACKAGE

For precise control of temperature and humidity, United CoolAir can provide a simple microprocessor "MiniMarvel" Control or a full featured "Marvel" system for special applications.

MiniMarvel Controller

United CoolAir's MiniMarvel consists of a compact microprocessor built directly into the air conditioner to control cooling/heating or humidification/dehumidification. Each sensor gets its own controller. For units with temperature control the sensor will be mounted internally and for units with temperature/humidity control the sensor will be wall mounted.

The controller has a bright three-segment LED readout which makes it convenient to monitor.

The controller has a sensing accuracy of 0.1°F on temperature and 0.1% on humidity.

The setpoints can be programmed through one face-mounted pad for temperature controlled units and two face-mounted pads for temperature/humidity control units.

For convenience of use, a hand-held infra-red remote control programmer is also available. This enables the customer to program the unit through the controller mounted in the unit or from the infra-red programmer.

Standard Features Of MiniMarvel include:

- , Cooling up to 2 stages
- , Heating up to 2 stages
- , Sensor failure alarm
- , Memory error alarm
- , Airflow or dirty filter or smoke detector alarm
- , High temperature or high humidity alarm
- , Low temperature or low humidity alarm
- , Anti short cycle protection for compressors
- , User adjustable set points, band and dead band
- , Password protection to prevent tampering

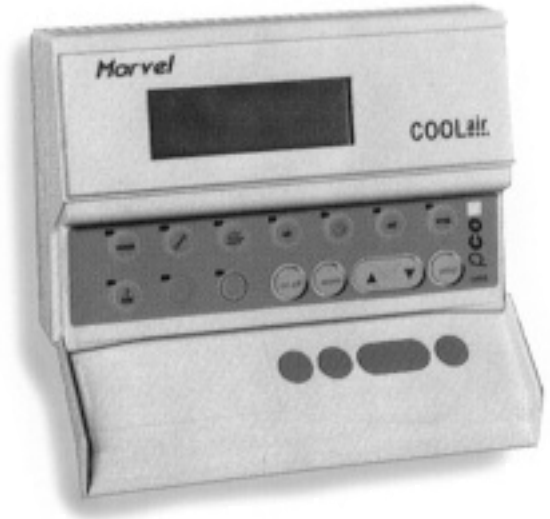
MiniMarvel has the following optional features:

- , Network communications with open protocol through a serial port
- , Interface with Johnson Metasys, Modbus etc.
- , Night/Day setback operation with an external time clock
- , Second temperature input for outdoor reset or auto-compensation routines



Marvel Controller

United CoolAir's Marvel controller solves the problem of precision environmental control and rooms with sensitive electronic equipment by maintaining precise temperature and humidity in the space. The Marvel is a complete programmable controller capable of managing up to 16 independent zones from one location. Each zone has up to four temperature inputs and 12 alarm sensors for monitoring critical air conditioner functions. The controller has an accuracy of $\pm 1^{\circ}\text{C}$ and $\pm 2\%$ humidity.



The Marvel has the following standard features:

- A four-line by 20-character LCD display in plain English, including alarms
- Manual control is possible for the system from the controller keypad
- Password may be entered to protect settings from being tampered with
- The user may select continuous fan operation or operation only on demand for heating, cooling, humidifying and dehumidifying
- On a power failure condition, the system restarts automatically
- Cooling up to four compressors and heating up to four stages
- Humidifying by use of an internal electrode steam generator, with ON/OFF or modulating control
- SCR control capability for electric heat
- Hot gas bypass by a solenoid or modulating device
- Dehumidifying by cooling/reheat

Alarms

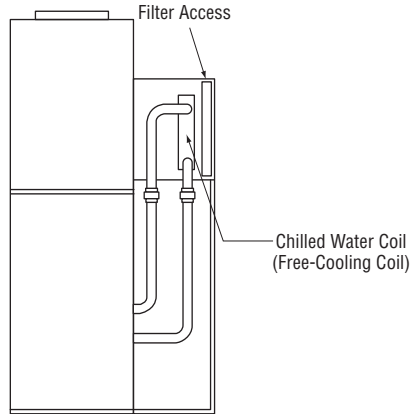
- Loss of air flow alarm
- Humidifier alarm indicating a fault with the humidifier
- Drain pan alarm indicating a possible overflow condition
- Filter alarm indicating filters are dirty and need to be changed
- Compressor hi/lo pressure alarms: shut down the appropriate compressor and prevents compressor damage from extreme pressures
- Room temperature and humidity readings with user settable high and low limit alarms
- Heater hi-limit alarm: shuts off the heater when the temperature rises in the unit because of extreme conditions like loss of airflow, etc.

The Marvel controller has the following optional features available:

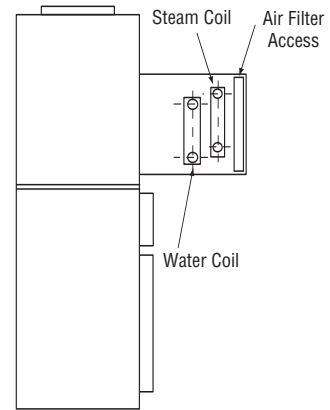
- Maintenance run times of fan, compressors, heaters and humidifier are recorded to assist in planning preventative and routine maintenance
- Smoke detector / shut-down / alarm
- Pressure sensor to allow damper control for cleanrooms, isolation rooms, laboratories with optional sensor to scale temperature and humidity of outside air
- Temperature sensor option for "free-cooling" economizer operation
- Discharge air temperature sensor to prevent too hot or too cold discharge temperatures to the room
- Printer output for document of parameters and settings
- Night/day setback
- Redundant unit operation interface: allows two or more units to operate as redundant backups automatically
- Networking to a central command computer or to an existing building automation system
- Ramp up or down on start/stop: brings a room slowly to set temperature on morning startup and prevent huge uses of energy

VertiCool Unit Optional Configurations

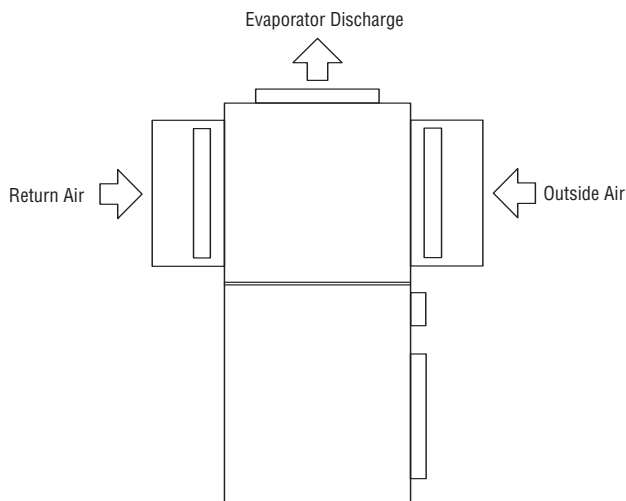
Contact Factory for Details and Dimensions



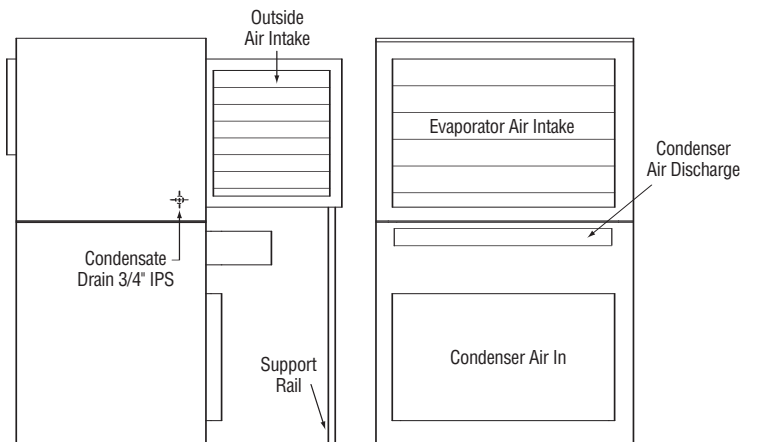
VertiCool Unit With Free-Cooling Coil



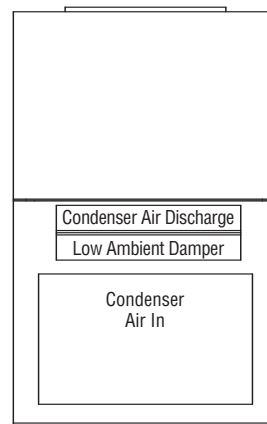
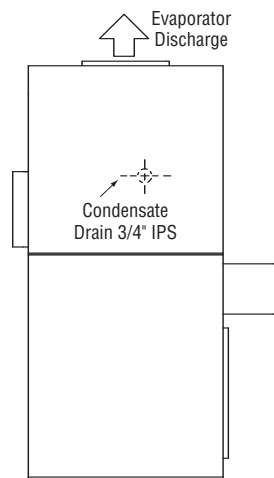
VertiCool Unit With Steam Coil and Water Coil



VertiCool Unit With Two-Sided Economizer Section

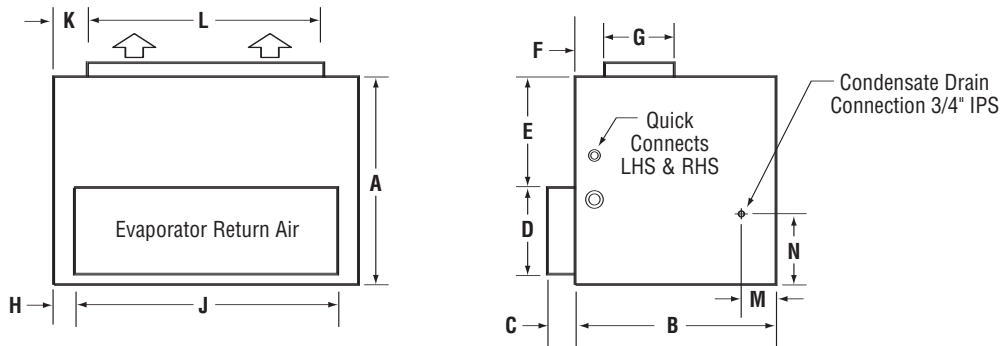


VertiCool Unit With Single-Side Air-Side Economizer

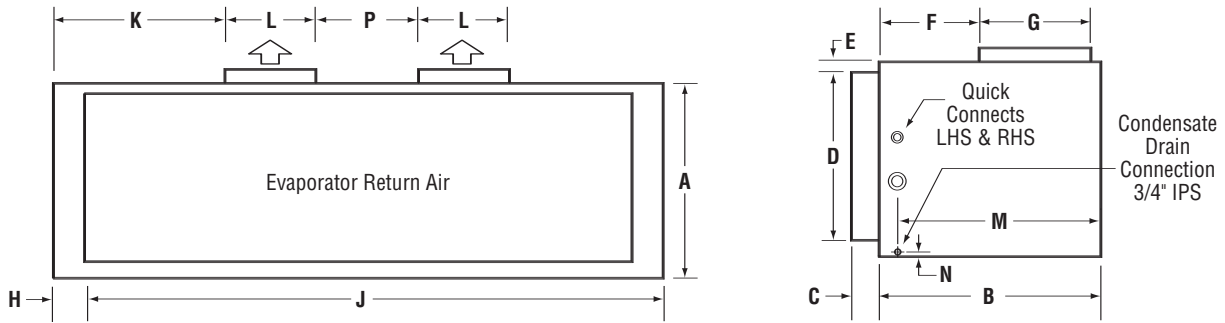


VertiCool Unit Condenser Section With Low-Ambient Damper

VertiCool Unit - 3-25 Ton Evaporator Sections



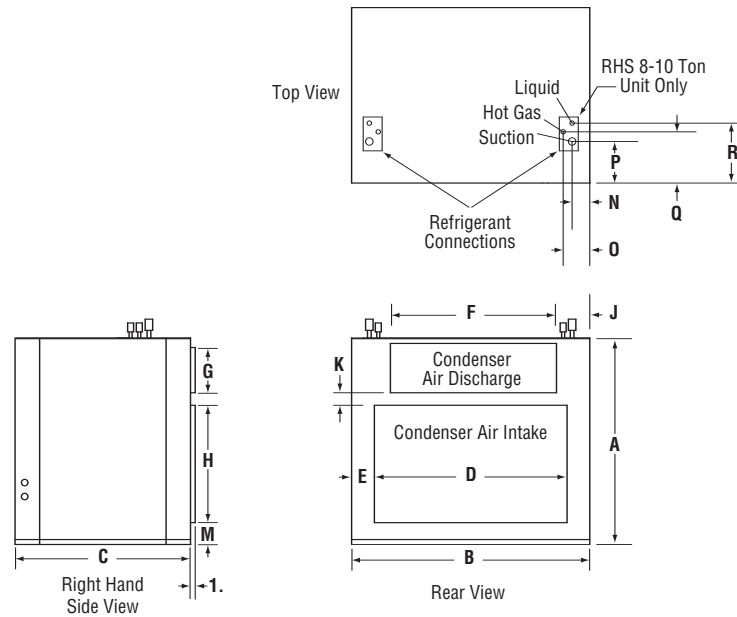
EVAPORATOR SECTION 3 THROUGH 10 TON



EVAPORATOR SECTION 12 THROUGH 25 TON

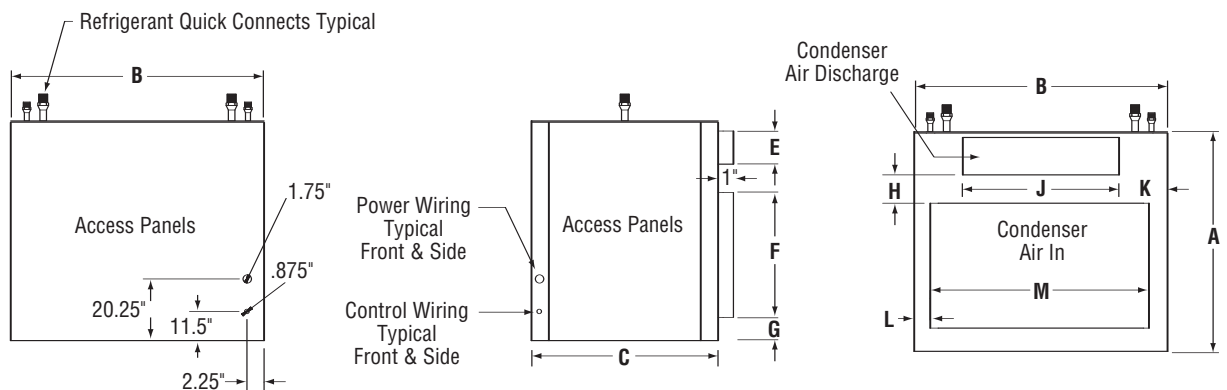
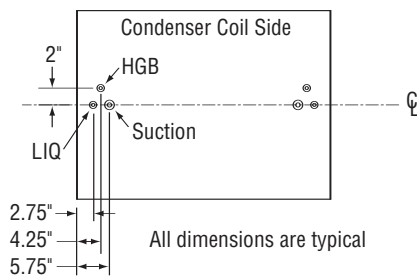
Tons	A	B	C	D	E	F	G	H	J	K	L	M	N	P
3-5	30"	29"	4"	12-1/2"	16"	4-1/4"	10"	3"	38"	5"	34"	5"	10-3/16"	-
8-10	34-1/4"	32"	4"	14-5/8"	18-1/8"	4-7/8"	12"	3"	56"	7"	48"	2-1/2"	2-1/2"	-
12-20	28-1/8"	32"	4"	24-1/4"	1-1/2"	14-7/16"	16-1/8"	4-1/2"	79"	23-3/4"	13-1/8"	29-5/16"	11/16"	14-13/16"
25	36-1/8"	32"	4"	32-1/2"	1-1/2"	14-7/16"	16-1/8"	4-1/2"	79"	23-3/4"	13-1/8"	29-5/16"	11/16"	14-13/16"

VertiCool Unit - 3-10 Ton Air-Cooled



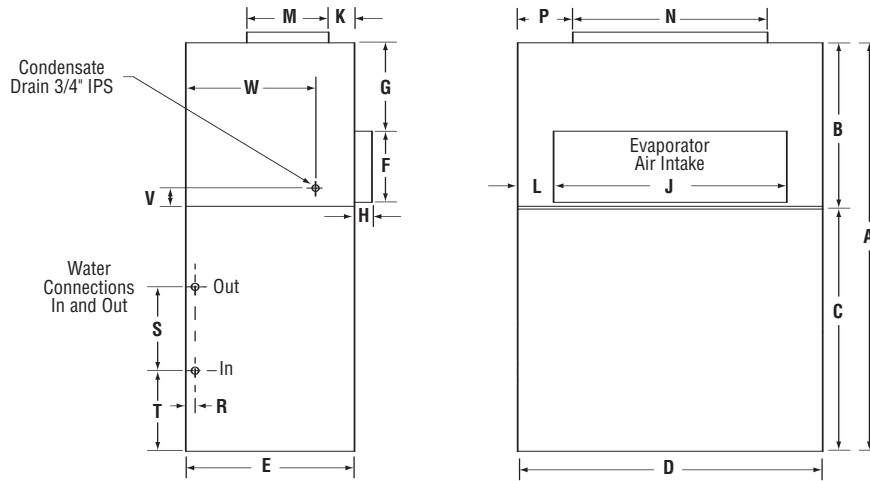
Tons	A	B	C	D	E	F	G	H	J	K	M	N	O	P	Q	R
3-5	34-1/2"	44"	29"	38"	3"	33"	7"	23"	5-1/2"	2"	1-1/4"	2"	3-3/4"	9"	10-1/2"	12"
8-10	45-3/4"	62"	32"	56"	3"	48"	8-3/4"	30"	7"	3"	1-1/2"	2"	4-1/2"	9"	10-3/4"	12-1/4"

VertiCool Unit - Condensing Section 12 - 25 Ton Air-Cooled



Tons	A	B	C	D	E	F	G	H	J	K	L
12-25	51"	88"	32"	12"	10"	36-1/8"	1-1/2"	1-1/16"	66-1/2"	10-3/4"	3"

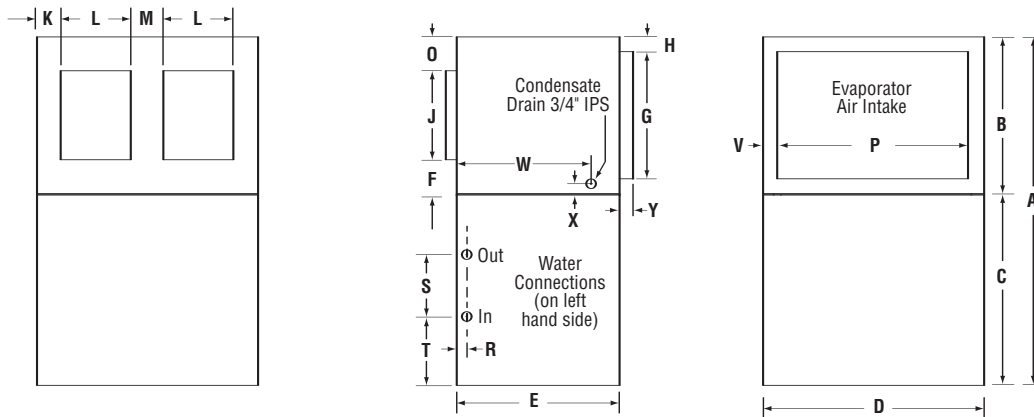
VertiCool Unit - 3-10 Ton Water-Cooled



Tons	A	B	C	D	E	F	G	H	J	K	L	M	N	P
3-5	64-1/2"	30"	34-1/2"	44"	29"	12-1/2"	16"	4"	38"	4-1/4"	3"	10"	34"	5"
	R	S	T	V	W									
	2-1/4"	16-1/2"	9"	10-3/16"	5"									

Tons	A	B	C	D	E	F	G	H	J	K	L	M	N	P
8-10	80"	34-1/4"	45-3/4"	62"	32"	14-5/8"	18-1/8"	4"	56"	4-7/8"	3"	12"	48"	7"
	R	S	T	V	W									
	2-1/4"	16-1/2"	14-5/8"	2-1/2"	2-1/2"									

VertiCool Unit - 12-20 Ton Water-Cooled



Tons	A	B	C	D	E	F	G	H	J	K	L	M	N	O
12-20	79-1/8"	28-1/8"	51"	88"	32"	2-5/8"	24-1/4"	1-1/2"	16-1/8"	22-1/2"	13-1/8"	15"	13-1/8"	9-3/8"
	P	R	S	T	V	W	X	Y						
	79"	2-1/4"	16-1/2"	17-1/4"	4-1/2"	29-5/16"	11/16"	4"						

VERTICOOL OPTIONAL FEATURES

BASIC OPTIONS

- Hot Gas Bypass
- Modulating Hot Gas Bypass
- Electric Heat
- Electric Reheat
- SCR Control
- Low-Ambient Damper
- -30°F Flooded Condenser
(Head Pressure Control/Receiver Tank)
- Condensate Pump
- Hot Gas Reheat
- Hot Water Coil
- Steam Coil
- Chilled Water Valve
- Hot Water Valve
- Non-Fused Disconnect
- Variable-Frequency Drives (VFD)
- Steam Canister Humidifier
- Double-Wall Cabinet

SPECIAL APPLICATION

- Economizer Package (Air or Water)
- Heresite Coil (Evaporator and/or Condenser)
- Plenum with Grills
- Outdoor Modification Kit
- Split System

SPECIAL APPLICATIONS, WATER-COOLED

- High-Pressure Water Valves
- Three-Way Water Valve
- Cupro Nickel Condenser

**AIR SOURCE HEAT PUMP
MINIMARVEL CONTROLLER**

**WATER SOURCE HEAT PUMP
MARVEL CONTROLLER**

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