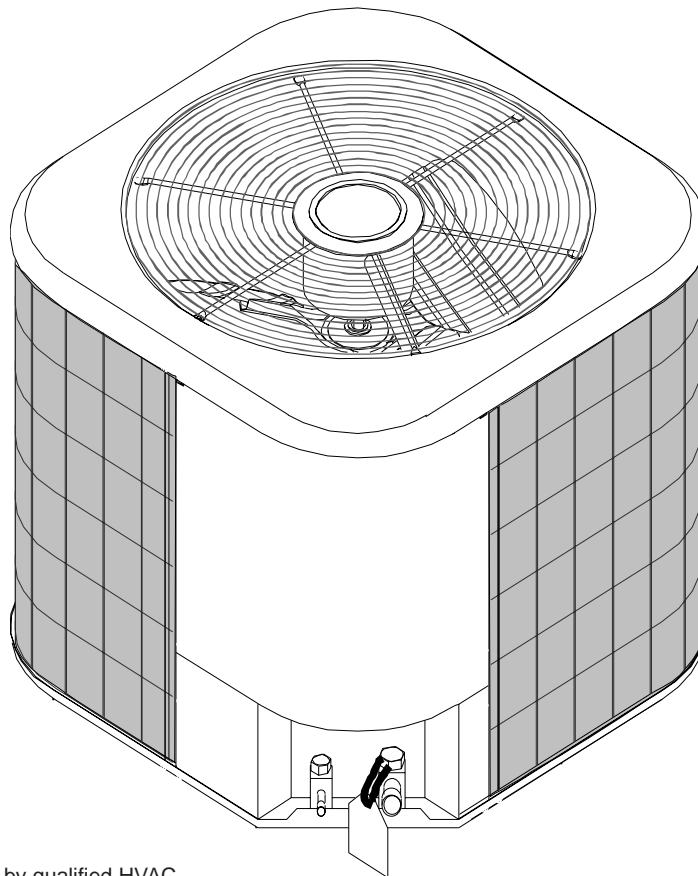


Model and Manufacturing numbers listed in this manual.

Technical Information

VCA_B_* Remote Condensing Unit

- Refer to Service Manual RS6200003 for installation, operation, and troubleshooting information.
- All safety information must be followed as provided in the Service Manual.
- Refer to the appropriate Parts Catalog for part number information.



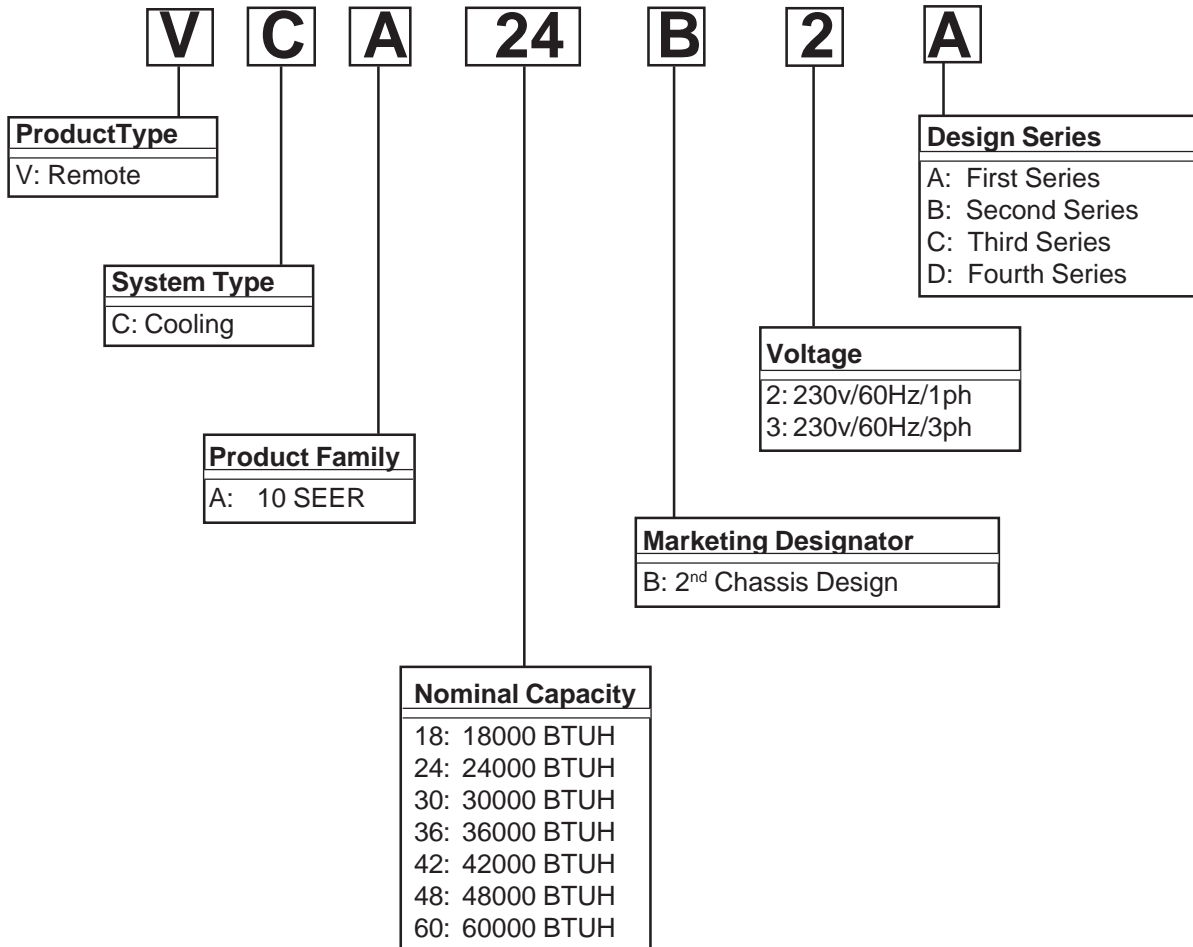
<u>MODEL</u>	<u>M/N</u>
VCA18B2A	P1221301C
VCA24B2A	P1221302C
VCA30B2A	P1221303C
VCA42B2A	P1221307C
VCA36B2A	P1221314C
VCA36B3A	P1221315C
VCA48B2A	P1221316C
VCA48B3A	P1221317C
VCA60B2A	P1221318C
VCA60B3A	P1221319C
VCA18B2D	P1221320C
VCA24B2D	P1221321C
VCA30B2D	P1221322C
VCA36B2D	P1221323C
VCA42B2D	P1221324C
VCA48B2D	P1221325C
VCA60B2D	P1221326C
VCA36B3D	P1221327C
VCA48B3D	P1221328C
VCA60B3D	P1221329C
VCA18B2A	P1224801C
VCA24B3A	P1224802C
VCA18B2E	P1221330C
VCA24B2E	P1221331C
VCA30B2E	P1221332C
VCA36B2E	P1221333C
VCA42B2E	P1221334C
VCA48B2E	P1221335C
VCA60B2E	P1221336C
VCA36B3E	P1221337C
VCA48B3E	P1221338C
VCA60B3E	P1221339C

This manual is to be used by qualified HVAC technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. At which time engineering and manufacturing changes take place where interchangeability of components are affected, the manufacturing number will change.

It is very important to use the model and manufacturing numbers at all times when requesting service or parts information.



Rev 1. Added VCA__B_D Models



WARNING

IF REPAIRS ARE ATTEMPTED BY UNQUALIFIED PERSONS, DANGEROUS CONDITIONS (SUCH AS EXPOSURE TO ELECTRICAL SHOCK) MAY RESULT. THIS MAY CAUSE SERIOUS INJURY OR DEATH.



CAUTION

AMANA WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SERVICE OR SERVICE PROCEDURES. IF YOU PERFORM SERVICE ON YOUR OWN PRODUCT, YOU ASSUME RESPONSIBILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE WHICH MAY RESULT.

PRODUCT DESIGN

The VCA Remote Condensing Units are made in 1.5 through 5 ton sizes. They are designed for dual voltage single phase applications. 208/230 three phase units are available in 3, 4, and 5 ton sizes.

The condenser air is pulled through the condenser coil by a direct drive propeller fan. This condenser air is then discharged out of the top of the cabinet.

These units are designed for free air discharge, so no additional resistance (like duct work) shall be attached.

The suction and liquid line connections are of the sweat type for field piping with refrigerant type copper. Non-back seating valves are factory installed to accept the field run copper. The total refrigerant charge for a normal installation is factory installed in the condensing unit. This charge is for the matching evaporator coil and 15 feet of refrigerant line.

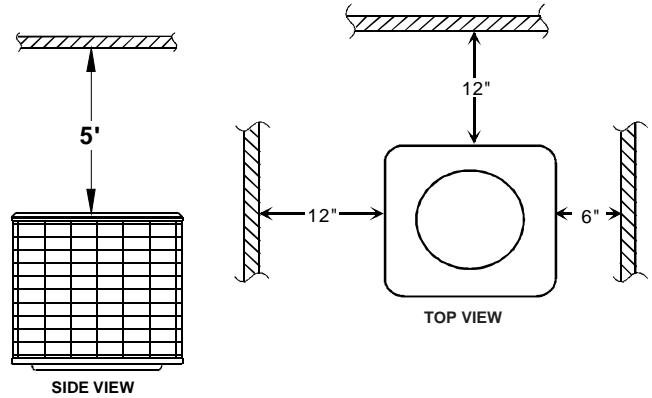
Refrigerant line sizes listed in the Specification section are for 50 feet or less. The maximum length of refrigerant lines is 50 feet with no more than 20 feet of vertical rise. In this case additional refrigerant must be added for the extra 35 feet of lines.

Systems should be properly sized by heat gain and loss calculations made according to methods of the Air Conditioning Contractors Association (ACCA) or equivalent. It is the contractors responsibility to ensure the system has adequate capacity to heat or cool the conditioned space.

Outdoor Units	Orifice Size AeroQuip	Orifice Size Chatleff
VCA18B2*	0.053	0.053
VCA24B2*	0.059	0.059
VCA30B2*	0.065	0.065
VCA36B2*	0.071	0.071
VCA42B2*	0.076	0.076
VCA48B2*	0.084	0.084
VCA60B2*	0.092	0.092

Note: 3 Phase units **must** be matched with a TXV indoor coil. Whenever mix-matching single phase systems, the indoor orifice must be matched to the condensing unit for proper operation.

MINIMUM CLEARANCES



This unit is for outdoor installation only. Refer to minimum clearance figure for clearances from the sides of the unit to full walls and other objects.

NOTE: This unit cannot be completely enclosed. At least one side must be unrestricted.

These clearances will help avoid air recirculation. If installing two or more units at the same location, allow at least 24 inches between units. If only one side is restricted (for example, against the outside wall of a house), the unit may be placed as close as 8" to that one wall.

DO NOT locate the unit:

- Directly under a vent termination for a gas appliance.
- Within 3 feet of a clothes drier vent.
- Where the refreezing of defrost water would create a hazard.
- Where water may rise into the unit.

Outdoor Units	Footprint Square	Unit Height
VCA18B2*	22 1/2" x 22 1/2"	23"
VCA24B2*	22 1/2" x 22 1/2"	23"
VCA30B2*	22 1/2" x 22 1/2"	29"
VCA36B2*	28 1/2" x 28 1/2"	25"
VCA36B3*	28 1/2" x 28 1/2"	25"
VCA42B2*	28 1/2" x 28 1/2"	25"
VCA48B2*	28 1/2" x 28 1/2"	33"
VCA48B3*	28 1/2" x 28 1/2"	33"
VCA60B2*	28 1/2" x 28 1/2"	33"
VCA60B3*	28 1/2" x 28 1/2"	33"

CONDENSING UNIT SPECIFICATIONS

MODEL	VCA18B2A/D	VCA24B2A/D	VCA30B2A/D	VCA36B2A/D	VCA36B3A/D
COOLING CAPACITY, BTUH	18000	24000	30000	36000	36000
COMPRESSOR					
R.L. AMPS	9.0	10.9	13.7	15.3	8.9
L.R. AMPS	48.3	60.0	69.4	84.0	63.4
CONDENSER FAN MOTOR					
HORSEPOWER	1/12	1/12	1/5	1/4	1/4
R.L. AMPS	0.6	0.6	1.6	1.7	1.7
L.R. AMPS	1.2	1.2	3.1	3.7	3.7
LIQUID LINE, INCHES O.D.	0.25	0.25	3/8	3/8	3/8
SUCTION LINE, INCHES O.D.	5/8	5/8	3/4	3/4	3/4
REFRIGERANT CHARGE	51.0 oz.	63.0 oz.	67.0 oz.	78.0 oz.	78.0 oz.
POWER SUPPLY	208/230-60-1	208/230-60-1	208/230-60-1	208/230-60-1	208/230-60-3
MIN.CIRCUIT AMPACITY	12.0	14.4	18.7	20.8	12.8
MAX. OVERCURRENT DEVICE	20	25	30	35	20
ELECT. CONDUIT SIZE					
POWER SUPPLY	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"
LOW VOLTAGE	1/2"	1/2"	1/2"	1/2"	1/2"
APPROX. SHIPPING WT	144	145	149	168	168

MODEL	VCA42B2A/D	VCA48B2A/D	VCA48B3A/D	VCA60B2A/D	VCA60B3A/D
COOLING CAPACITY, BTUH	42000	48000	48000	60000	60000
COMPRESSOR					
R.L. AMPS	18.1	23.1	12.8	27.7	18.6
L.R. AMPS	97.6	110.0	90.0	123.0	128.0
CONDENSER FAN MOTOR					
HORSEPOWER	1/4	1/4	1/4	1/4	1/4
R.L. AMPS	1.7	1.7	1.7	1.7	1.7
L.R. AMPS	3.7	3.7	3.7	3.7	3.7
LIQUID LINE, INCHES O.D.	3/8	3/8	3/8	3/8	3/8
SUCTION LINE, INCHES O.D.	7/8	7/8	7/8	1-1/8	1-1/8
REFRIGERANT CHARGE	83.0 oz.	108.0 oz.	108.0 oz.	119.0 oz.	123.0 oz.
POWER SUPPLY	208/230-60-1	208/230-60-1	208/230-60-3	208/230-60-1	208/230-60-3
MIN.CIRCUIT AMPACITY	24.3	30.6	17.7	36.3	25.0
MAX. OVERCURRENT DEVICE	40	50	30	60	40
ELECT. CONDUIT SIZE					
POWER SUPPLY	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"
LOW VOLTAGE	1/2"	1/2"	1/2"	1/2"	1/2"
APPROX. SHIPPING WT	187	200	200	205	205

NOTE: This data is provided as a guide, it is important to electrically connect the unit and properly size fuses/circuit breakers and wires in accordance with all national and/or local electrical codes. Use copper wire only.

CONDENSING UNIT SPECIFICATIONS

MODEL	VCA18B2E	VCA24B2E	VCA30B2E	VCA36B2E	VCA36B3E
COOLING CAPACITY, BTUH	18000	24000	30000	36000	36000
COMPRESSOR					
R.L. AMPS	9.0	10.9	13.7	15.3	8.9
L.R. AMPS	48.3	60.0	69.4	84.0	63.4
CONDENSER FAN MOTOR					
HORSEPOWER	1/6	1/6	1/6	1/4	1/4
R.L. AMPS	1.0	1.0	1.0	1.5	1.5
L.R. AMPS	1.8	1.8	1.8	2.9	2.9
LIQUID LINE, INCHES O.D.	1/4	1/4	3/8	3/8	3/8
SUCTION LINE, INCHES O.D.	5/8	5/8	3/4	3/4	3/4
REFRIGERANT CHARGE	51.0 oz.	63.0 oz.	68.0 oz.	79.0 oz.	79.0 oz.
POWER SUPPLY	208/230-60-1	208/230-60-1	208/230-60-1	208/230-60-1	208/230-60-3
MIN.CIRCUIT AMPACITY	12.0	14.4	18.7	20.8	12.8
MAX. OVERCURRENT DEVICE	20	25	30	35	20
ELECT. CONDUIT SIZE					
POWER SUPPLY	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"
LOW VOLTAGE	1/2"	1/2"	1/2"	1/2"	1/2"
APPROX. SHIPPING WT	144	145	149	168	168

MODEL	VCA42B2E	VCA48B2E	VCA48B3E	VCA60B2E	VCA60B3E
COOLING CAPACITY, BTUH	42000	48000	48000	60000	60000
COMPRESSOR					
R.L. AMPS	18.1	23.1	12.8	27.7	18.6
L.R. AMPS	97.6	110.0	90.0	123.0	128.0
CONDENSER FAN MOTOR					
HORSEPOWER	1/4	1/4	1/4	1/4	1/4
R.L. AMPS	1.5	1.5	1.5	1.5	1.5
L.R. AMPS	2.9	2.9	2.9	2.9	2.9
LIQUID LINE, INCHES O.D.	3/8	3/8	3/8	3/8	3/8
SUCTION LINE, INCHES O.D.	7/8	7/8	7/8	1-1/8	1-1/8
REFRIGERANT CHARGE	84.0 oz.	109.0 oz.	109.0 oz.	120.0 oz.	124.0 oz.
POWER SUPPLY	208/230-60-1	208/230-60-1	208/230-60-3	208/230-60-1	208/230-60-3
MIN.CIRCUIT AMPACITY	24.3	30.6	17.7	36.3	25.0
MAX. OVERCURRENT DEVICE	40	50	30	60	40
ELECT. CONDUIT SIZE					
POWER SUPPLY	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"
LOW VOLTAGE	1/2"	1/2"	1/2"	1/2"	1/2"
APPROX. SHIPPING WT	187	200	200	205	205

NOTE: This data is provided as a guide, it is important to electrically connect the unit and properly size fuses/circuit breakers and wires in accordance with all national and/or local electrical codes. Use copper wire only.

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA18B2* / CCA18F*C

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power
CCA18F*C HSVTC	1.00	1.00
CCA18F*C+TXV01A	1.00	1.00
CHA18T*C	1.03	1.00
CCA24F*C+TXV01A	1.03	1.00
CCH24FCD	1.02	1.00
CCH24FCD+TXV01A	1.02	1.00
CHH24TCD	1.02	1.00
CCF24FCC	1.03	1.00
CCF24FCC+TXV01A	1.03	1.00
CHF18TCC	1.03	1.00
CCA18FCC+BBA24	1.01	0.96
CCA18FCC+BBA24+TXV01A	1.01	0.96
CHA18TCC+BBA24	1.03	0.96
CCA24FCC+BBA24	1.03	0.96
CCA24FCC+BBA24+TXV01A	1.03	0.96
CCH24FCD+BBA24	1.03	0.96
CCH24FCD+BBA24+TXV01A	1.03	0.96
CHH24TCD+BBA24	1.03	0.96
CHF18TCC+BBA24	1.03	0.96
CCF24FCC+BBA24	1.03	0.96

Indoor Section	Cap	Power
CCF24FCC+BBA24+TXV01A	1.03	0.96
CHF24TCC+BBA24	1.05	0.97
BMA24F--A	1.06	0.97
BMA24F--A+TXV04A	1.06	0.97

Indoor Section	Cap	Power

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA24B2*/CCA24F*C

COOLING OPERATION

IDB*	Airflow	Outdoor Ambient Temperature																												
		65				75				85				95				105				115								
		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71					
70	900	MBh	23.5	24.4	26.7	-	23.0	23.8	26.1	-	22.4	23.2	25.5	-	21.9	22.7	24.8	-	21.9	22.7	24.8	-	20.8	21.5	23.6	-	19.3	20.0	21.9	-
		S/T	0.71	0.60	0.41	-	0.74	0.62	0.43	-	0.76	0.63	0.44	-	0.78	0.65	0.45	-	0.78	0.65	0.45	-	0.81	0.68	0.47	-	0.82	0.68	0.47	-
		Delta T	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	16	14	11	-
		KW	2.04	2.08	2.15	-	2.19	2.24	2.31	-	2.33	2.38	2.45	-	2.45	2.50	2.58	-	2.45	2.50	2.58	-	2.55	2.61	2.69	-	2.64	2.70	2.79	-
		AMPS	7.2	7.4	7.6	-	7.8	8.0	8.2	-	8.5	8.7	9.0	-	9.1	9.3	9.6	-	9.1	9.3	9.6	-	9.7	9.9	10.2	-	10.2	10.5	10.9	-
	800	HI PR	161	173	183	-	180	194	205	-	205	221	233	-	233	251	265	-	233	251	265	-	263	283	298	-	290	312	330	-
		LO PR	61	65	71	-	64	69	75	-	67	71	78	-	70	75	82	-	70	75	82	-	74	78	86	-	76	81	89	-
		MBh	22.8	23.7	25.9	-	22.3	23.1	25.3	-	21.8	22.6	24.7	-	21.2	22.0	24.1	-	21.2	22.0	24.1	-	20.2	20.9	22.9	-	18.7	19.4	21.2	-
		S/T	0.68	0.57	0.39	-	0.70	0.59	0.41	-	0.72	0.60	0.42	-	0.75	0.62	0.43	-	0.75	0.62	0.43	-	0.77	0.65	0.45	-	0.78	0.65	0.45	-
		Delta T	18	15	12	-	18	16	12	-	18	16	12	-	18	16	12	-	18	16	12	-	18	16	12	-	17	15	11	-
700	900	MBh	21.1	21.8	23.9	-	20.6	21.3	23.4	-	20.1	20.8	22.8	-	19.6	20.3	22.3	-	19.6	20.3	22.3	-	18.6	19.3	21.1	-	17.3	17.9	19.6	-
		S/T	0.66	0.55	0.38	-	0.68	0.57	0.39	-	0.70	0.58	0.40	-	0.72	0.60	0.42	-	0.72	0.60	0.42	-	0.75	0.62	0.43	-	0.75	0.63	0.44	-
		Delta T	18	16	12	-	18	16	12	-	18	16	12	-	19	16	12	-	19	16	12	-	18	16	12	-	17	15	11	-
		KW	1.98	2.02	2.08	-	2.12	2.17	2.24	-	2.25	2.30	2.38	-	2.37	2.42	2.50	-	2.37	2.42	2.50	-	2.47	2.52	2.60	-	2.55	2.61	2.69	-
		AMPS	6.9	7.1	7.3	-	7.5	7.7	7.9	-	8.2	8.4	8.6	-	8.7	8.9	9.3	-	8.7	8.9	9.3	-	9.3	9.5	9.9	-	9.9	10.1	10.5	-
	800	HI PR	159	171	181	-	178	192	203	-	203	218	231	-	231	249	263	-	231	249	263	-	260	280	295	-	287	309	326	-
		LO PR	60	64	70	-	64	68	74	-	66	71	77	-	70	74	81	-	70	74	81	-	73	78	85	-	75	80	88	-
		MBh	21.1	21.8	23.9	-	20.6	21.3	23.4	-	20.1	20.8	22.8	-	19.6	20.3	22.3	-	19.6	20.3	22.3	-	18.6	19.3	21.1	-	17.3	17.9	19.6	-
		S/T	0.66	0.55	0.38	-	0.68	0.57	0.39	-	0.70	0.58	0.40	-	0.72	0.60	0.42	-	0.72	0.60	0.42	-	0.75	0.62	0.43	-	0.75	0.63	0.44	-
		Delta T	18	16	12	-	18	16	12	-	18	16	12	-	19	16	12	-	19	16	12	-	18	16	12	-	17	15	11	-
75	900	MBh	23.9	24.6	26.7	28.6	23.4	24.1	26.0	27.9	22.8	23.5	25.4	27.3	22.2	22.9	24.8	26.6	22.2	22.9	24.8	26.6	21.1	21.8	23.6	25.3	19.6	20.2	21.8	23.4
		S/T	0.81	0.73	0.55	0.35	0.84	0.75	0.57	0.37	0.86	0.77	0.58	0.38	0.89	0.80	0.60	0.39	0.89	0.80	0.60	0.39	0.92	0.83	0.62	0.40	0.93	0.83	0.63	0.41
		Delta T	20	18	15	10	20	18	15	10	20	18	15	10	20	19	15	11	20	19	15	11	20	18	15	10	19	17	14	10
		KW	2.05	2.10	2.16	2.23	2.21	2.26	2.33	2.40	2.35	2.40	2.48	2.56	2.47	2.52	2.60	2.69	2.47	2.52	2.60	2.69	2.57	2.63	2.71	2.81	2.66	2.72	2.81	2.90
		AMPS	7.3	7.4	7.7	8.0	7.9	8.1	8.3	8.6	8.6	8.8	9.1	9.4	9.2	9.4	9.7	10.1	9.2	9.4	9.7	10.1	9.8	10.0	10.3	10.7	10.3	10.6	11.0	11.4
	800	HI PR	162	175	184	192	182	196	207	216	207	223	235	245	236	254	268	279	236	254	268	279	265	285	301	314	293	315	333	347
		LO PR	62	66	72	76	65	69	76	80	68	72	79	84	71	76	82	88	71	76	82	88	74	79	86	92	77	82	89	95
		MBh	23.2	23.9	25.9	27.8	22.7	23.4	25.3	27.1	22.1	22.8	24.7	26.5	21.6	22.2	24.1	25.8	21.6	22.2	24.1	25.8	20.5	21.1	22.9	24.5	19.0	19.6	21.2	22.7
		S/T	0.77	0.69	0.52	0.34	0.80	0.72	0.54	0.35	0.82	0.73	0.56	0.36	0.85	0.76	0.57	0.37	0.85	0.76	0.57	0.37	0.88	0.79	0.60	0.38	0.89	0.79	0.60	0.39
		Delta T	21	19	16	11	21	19	16	11	21	19	16	11	21	19	16	11	21	19	16	11	21	19	16	11	19	18	15	10
700	HI PR	161	173	183	190	180	194	205	214	205	221	233	243	233	251	265	277	233	251	265	277	263	283	298	311	290	312	330	344	
	LO PR	61	65	71	75	64	69	75	80	67	71	78	83	70	75	82	87	70	75	82	87	74	78	86	91	76	81	89	94	
	MBh	21.4	22.1	23.9	25.6	20.9	21.6	23.3	25.0	20.4	21.0	22.8	24.4	19.9	20.5	22.2	23.8	19.9	20.5	22.2	23.8	18.9	19.5	21.1	22.7	17.5	18.1	19.6	21.0	
	S/T	0.75	0.67	0.50	0.32	0.77	0.69	0.52	0.34	0.79	0.71	0.54	0.35	0.82	0.73	0.55	0.36	0.82	0.73	0.55	0.36	0.85	0.76	0.57	0.37	0.86	0.77	0.58	0.37	
	Delta T	21	19	16	11	21	20	16	11	21	20	16	11	21	20	16	11	21	20	16	11	21	19	16	11	20	18	15	10	

* Entering Indoor Dry Bulb Temperature
NOTE: Shaded area is ACCA (TVA) conditions

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA MODEL: VCA24B2* / CCA24F*C

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power
CHA18T*C	1.00	1.00
CCA24F*C HSVTC	1.00	1.00
CCA24F*C+TXV01A	1.00	1.00
CCH24FCD	0.98	0.98
CCH24FCD+TXV01A	0.98	0.98
CCH30FCD	1.03	1.00
CCH30FCD+TXV01A	1.03	1.00
CHF18TCC	0.99	0.99
CCF24FCC	0.99	0.99
CCF24FCC+TXV01A	0.99	0.99
CCF24FDC	1.01	0.99
CCF24FDC+TXV01A	1.01	0.99
CHF24TCC	1.02	1.00
CCF30FCC	1.02	1.00
CCF30FCC+TXV01A	1.02	1.00
CHF30TCC	1.00	0.99
CCA18FCC+BBA24	0.97	0.95
CCA18FCC+BBA24+TXV01A	0.97	0.95
CHA18TCC+BBA24	1.01	0.97
CCA24FCC+BBA24	1.01	0.97

Indoor Section	Cap	Power
CCA24FCC+BBA24+TXV01A	1.01	0.97
CHA24TCC+BBA24	1.01	0.96
CCA30FCC+BBA24	1.01	0.96
CCA30FCC+BBA24+TXV01A	1.01	0.96
CHA30TCC+BBA24	1.04	0.97
CHF18TCC+BBA24	1.00	0.96
CCF24FCC+BBA24	1.00	0.96
CCF24FCC+BBA24+TXV01A	1.00	0.96
CHF24TCC+BBA24	1.03	0.97
CCF30FCC+BBA24	1.03	0.97
CCF30FCC+BBA24+TXV01A	1.03	0.97
CHF30TCC+BBA24	1.01	0.96
BMA24F--A	1.03	0.96
BMA24F--A+TXV04A	1.03	0.96

Indoor Section	Cap	Power

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA30B2*/CCA30F*C COOLING OPERATION

IDB* Airflow		Outdoor Ambient Temperature												115											
		65				75				85				95				105				115			
		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71
1125	MBh	29.6	30.7	33.7	-	29.0	30.0	32.9	-	28.3	29.3	32.1	-	27.6	28.6	31.3	-	26.2	27.2	29.7	-	24.3	25.2	27.6	-
	S/T	0.71	0.60	0.41	-	0.74	0.62	0.43	-	0.76	0.63	0.44	-	0.78	0.65	0.45	-	0.81	0.68	0.47	-	0.82	0.68	0.47	-
	Delta T	17	15	11	-	17	15	11	-	18	15	12	-	18	15	12	-	17	15	11	-	16	14	11	-
	KW	2.17	2.23	2.30	-	2.36	2.41	2.50	-	2.52	2.58	2.67	-	2.66	2.73	2.82	-	2.79	2.85	2.95	-	2.89	2.96	3.07	-
	AMPS	9.1	9.3	9.6	-	9.8	10.0	10.4	-	10.6	10.9	11.2	-	11.3	11.6	12.0	-	12.1	12.3	12.7	-	12.8	13.1	13.5	-
1000	MBh	154	166	175	-	173	186	196	-	197	212	223	-	224	241	254	-	252	271	286	-	278	299	316	-
	S/T	59	63	68	-	62	66	72	-	65	69	75	-	68	72	79	-	71	76	83	-	74	78	86	-
	Delta T	28.8	29.8	32.7	-	28.1	29.1	31.9	-	27.4	28.4	31.2	-	26.8	27.7	30.4	-	25.4	26.4	28.9	-	23.6	24.4	26.8	-
	KW	0.68	0.57	0.39	-	0.70	0.59	0.41	-	0.72	0.60	0.42	-	0.75	0.62	0.43	-	0.77	0.65	0.45	-	0.78	0.65	0.45	-
	AMPS	18	16	12	-	18	16	12	-	18	16	12	-	18	16	12	-	18	16	12	-	17	15	11	-
875	MBh	2.16	2.21	2.28	-	2.34	2.39	2.48	-	2.50	2.56	2.65	-	2.64	2.70	2.80	-	2.76	2.83	2.93	-	2.86	2.93	3.04	-
	S/T	9.0	9.2	9.5	-	9.7	10.0	10.3	-	10.5	10.8	11.1	-	11.2	11.5	11.9	-	11.9	12.2	12.6	-	12.6	12.9	13.4	-
	Delta T	152	164	173	-	171	184	194	-	195	209	221	-	222	239	252	-	249	268	283	-	275	296	313	-
	KW	58	62	68	-	62	66	72	-	64	68	74	-	67	72	78	-	71	75	82	-	73	78	85	-
	AMPS	26.6	27.5	30.2	-	25.9	26.9	29.5	-	25.3	26.3	28.8	-	24.7	25.6	28.1	-	23.5	24.3	26.7	-	21.7	22.5	24.7	-
1125	MBh	30.1	31.0	33.6	36.1	29.4	30.3	32.8	35.2	28.7	29.6	32.0	34.4	28.0	28.9	31.3	33.5	26.6	27.4	29.7	31.9	24.7	25.4	27.5	29.5
	S/T	0.81	0.73	0.55	0.35	0.84	0.75	0.57	0.37	0.86	0.77	0.58	0.38	0.89	0.80	0.60	0.39	0.92	0.83	0.62	0.40	0.93	0.83	0.63	0.41
	Delta T	20	18	15	10	20	19	15	11	20	19	15	11	20	19	15	11	20	19	15	10	19	17	14	10
	KW	2.19	2.25	2.32	2.40	2.38	2.44	2.52	2.61	2.54	2.60	2.70	2.79	2.69	2.75	2.85	2.95	2.81	2.88	2.98	3.09	2.92	2.99	3.09	3.21
	AMPS	9.2	9.4	9.7	10.0	9.9	10.1	10.5	10.8	10.7	11.0	11.3	11.8	11.4	11.7	12.1	12.5	12.2	12.5	12.9	13.3	12.9	13.2	13.6	14.1
1000	MBh	156	167	177	184	175	188	198	207	199	214	226	235	226	243	257	268	254	274	289	302	281	302	319	333
	S/T	60	63	69	74	63	67	73	78	65	70	76	81	69	73	80	85	72	77	84	89	74	79	86	92
	Delta T	29.3	30.1	32.6	35.0	28.6	29.4	31.9	34.2	27.9	28.7	31.1	33.4	27.2	28.0	30.3	32.6	25.9	26.6	28.8	30.9	24.0	24.7	26.7	28.7
	KW	0.77	0.69	0.52	0.34	0.80	0.72	0.54	0.35	0.82	0.73	0.56	0.36	0.85	0.76	0.57	0.37	0.88	0.79	0.60	0.38	0.89	0.79	0.60	0.39
	AMPS	21	19	16	11	21	19	16	11	21	19	16	11	21	20	16	11	21	19	16	11	20	18	15	10
875	MBh	2.18	2.23	2.30	2.38	2.36	2.41	2.50	2.59	2.52	2.58	2.67	2.77	2.66	2.73	2.82	2.93	2.79	2.85	2.95	3.06	2.89	2.96	3.07	3.18
	S/T	9.1	9.3	9.6	10.0	9.8	10.0	10.4	10.7	10.6	10.9	11.2	11.6	11.3	11.6	12.0	12.4	12.1	12.3	12.7	13.2	12.8	13.1	13.5	14.0
	Delta T	154	166	175	183	173	186	196	205	197	212	223	233	224	241	254	265	252	271	286	299	278	299	316	330
	KW	59	63	68	73	62	66	72	77	65	69	75	80	68	72	79	84	71	76	83	88	74	78	86	91
	AMPS	27.0	27.8	30.1	32.3	26.4	27.2	29.4	31.6	25.8	26.5	28.7	30.8	25.1	25.9	28.0	30.1	23.9	24.6	26.6	28.6	22.1	22.8	24.6	26.4

* Entering Indoor Dry Bulb Temperature NOTE: Shaded area is ACCA (TVA) conditions

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA30B2* / CCA30F*A

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power
CCA24F*C	1.00	0.99
CCA24F*C+TXV02A	1.00	0.99
CCA30F*C HSVTC	1.01	1.01
CHA30T*C	1.05	1.03
CCA36F*C	1.05	1.03
CCA36F*C+TXV02A	1.05	1.03
CCH24FCD	0.98	1.00
CCH24FCD+TXV02A	0.98	1.00
CCH30FCD	1.04	1.02
CCH30FCD+TXV02A	1.04	1.02
CHH30TCD	1.04	1.02
CCH36FCD	1.04	1.03
CCH36FCD+TXV02A	1.04	1.03
CHF18TCC	1.04	1.03
CHF18TCC	0.99	1.00
CCF24FCC	0.99	1.00
CCF24FCC+TXV02A	0.99	1.00
CHF24TCC	1.03	1.02
CCF30FCC	1.03	1.02
CCF30FCC+TXV02A	1.03	1.02

Indoor Section	Cap	Power
CHF30TCC	1.00	1.01
CCF36FCC	1.00	1.01
CCF36FCC+TXV02A	1.00	1.01
CCF36FDC	1.05	1.03
CCF36FDC+TXV02A	1.05	1.03
CCA24FCC+BBA36	1.01	1.00
CHA24TCC+BBA36	1.01	1.00
CCA30FCC+BBA36	1.01	1.00
CCA30FCC+BBA36+TXV02A	1.01	1.00
CHA30TCC+BBA36	1.05	1.01
CCA36FCC+BBA36	1.05	1.01
CCA36FCC+BBA36+TXV02A	1.05	1.01
CHA36TCC+BBA36	1.06	1.02
CHF18TCC+BBA36	0.99	0.99
CCF24FCC+BBA36	0.99	0.99
CCF24FCC+BBA36+TXV02A	0.99	0.99
CHF24TCC+BBA36	1.03	1.01
CCF30FCC+BBA36	1.03	1.01
CCF30FCC+BBA36+TXV02A	1.03	1.01
CHF30TCC+BBA36	1.00	1.00

Indoor Section	Cap	Power
CCF36FCC+BBA36	1.00	1.00
CCF36FCC+BBA36+TXV02A	1.00	1.00
BMA30F--A	1.05	1.03
BMA30F--A+TXV05A	1.05	1.03
BMA36F--A	1.07	1.02
BMA36F--A+TXV05A	1.07	1.02

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA36B2* / CCA36F*C

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power
CCA30F*C	0.93	0.97
CCA30F*C+TXV02A	0.93	0.97
CHA30T*C	0.99	1.01
CCA36F*C+TXV02A	0.99	1.01
CHA36T*C	1.00	1.01
CCA42F*C	1.00	1.01
CCA42F*C+TXV02A	1.00	1.01
CCH30FCD	0.98	1.00
CHH30TCD	0.99	1.00
CCH36FCD	0.99	1.00
CCH36FCD+TXV02A	0.98	1.00
CHH36TCD	0.98	1.00
CCF30FCC	0.95	0.97
CCF30FCC+TXV02A	0.95	0.97
CHF30TCC	0.93	0.97
CCF36FCC	0.93	0.97
CCF36FCC+TXV02A	0.93	0.97
CCF36FDC	0.98	0.98
CCF36FDC+TXV02A	0.98	0.99
CHF36TCC	0.98	1.00

Indoor Section	Cap	Power
CCF42FCC	0.98	1.00
CCF42FCC+TXV02A	0.98	1.00
CCA30FCC+BBA36	0.93	0.98
CCA30FCC+BBA36+TXV02A	0.93	0.98
CHA30TCC+BBA36	0.99	1.00
CCA36FCC+BBA36	0.99	1.00
CCA36FCC+BBA36+TXV02A	0.99	1.00
CHA36TCC+BBA36	1.00	1.00
CCA42FCC+BBA36+TXV02A	1.00	1.00
CCF30FCC+BBA36	0.96	0.99
CCF30FCC+BBA36+TXV02A	0.96	0.99
CHF30TCC+BBA36	0.93	0.97
CCF36FCC+BBA36	0.92	0.97
CCF36FCC+BBA36+TXV02A	0.93	0.97
CCF36FDC+BBA48	0.98	1.03
CCF36FDC+BBA48+TXV02A	0.98	1.03
CHF36TCC+BBA48	0.97	1.02
CCF42FCC+BBA48	0.96	1.02
CCF42FCC+BBA48+TXV02A	0.97	1.02
BMA36F--A	1.00	1.01

Indoor Section	Cap	Power
BMA36F--A+TXV	1.01	1.00
BMA42F--A	1.01	1.00
BMA42F--A+TXV	1.01	1.00

COOLING PERFORMANCE DATA

VCA36B3* EXPANDED PERFORMANCE DATA MODEL: VCA36B3*/CCA36F*C+TXV

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power	Indoor Section	Cap	Power	Indoor Section	Cap	Power
CCA30F*C+TXV	0.94	0.97	CCF36FCC+BBA36+TXV	0.94	0.97			
CHA30TCC	1.00	1.00	CHF30TCC+BBA36	0.94	0.97			
CCA36F*C + TXV	1.00	1.00	CCF36FDC+BBA48+TXV	1.00	1.00			
CHA36TCC	1.01	1.00	CCF42FCC+BBA48+TXV	0.98	0.99			
CCA42F*C+TXV	1.01	1.00	CHF36TCC+BBA48	0.98	0.99			
CHH30TCD	0.99	1.00	BMA36F*A+TXV/HIGH SPD	1.01	1.00			
CCH36F*CD+TXV	0.99	1.00	BMA42F*A+TXV/LOW SPD	1.01	1.00			
CHH36TCD	0.99	1.00						
CCF30FCC+TXV	0.97	0.97						
CCF36FCC+TXV	0.94	0.97						
CHF30TCC	0.94	0.97						
CCF36FDC+TXV	0.99	0.98						
CCF42FCC+TXV	0.98	0.99						
CHF36TCC	0.98	0.99						
CCA30FCC+BBA36+TXV	0.95	0.98						
CCA36FCC+BBA36+TXV	1.00	1.00						
CHA30TCC+BBA36	1.00	1.00						
CCA42FCC+BBA36+TXV	1.01	1.00						
CHA36TCC+BBA36	1.01	1.00						
CCF30FCC+BBA36+TXV	0.97	0.98						

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA42B2* / CCA42F*A

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power
CCA36F°C	0.96	0.98
CCA36F°C+TXV03A	0.96	0.98
CHA36T°C	0.98	0.99
CCA42F°C+TXV03A	0.98	0.99
CHA42T°C	1.00	1.01
CCA48F°C	1.00	1.02
CCA48F°C+TXV03A	1.00	1.01
CCH36FCD	0.96	0.99
CCH36FCD+TXV03A	0.96	0.99
CHH36TCD	0.96	0.99
CCH48FCD	1.01	1.01
CCH48FCD+TXV03A	1.01	1.01
CHH48TCD	1.01	1.01
CCF36FDC+TXV03A	0.96	0.99
CHF36TCC	0.96	1.00
CCF42FCC	0.96	1.00
CCF42FCC+TXV03A	0.96	1.00
CHF42TCC	0.96	1.00
CCF48FCC	0.96	1.00
CCF48FCC	0.99	1.01

Indoor Section	Cap	Power
CCF48FCC+TXV03A	0.96	1.00
CCH48FCC+TXV03A	0.99	1.01
CHF48TCC	0.99	1.01
CHA30TCC+HBA36	0.96	1.00
CCA36FCC+HBA36	0.96	1.00
CCA36FCC+HBA36+TXV03A	0.96	1.00
CHA36TCC+HBA36	0.97	1.00
CCA42FCC+HBA36	0.97	1.00
CCA42FCC+HBA36+TXV03A	0.97	1.00
CCA36FDC+HBA48	0.98	0.99
CCA36FDC+HBA48+TXV03A	0.98	0.99
CCA42FDC+HBA48	0.98	0.99
CCA42FDC+HBA48+TXV03A	0.98	0.99
CHA42TCC+HBA48	0.99	1.00
CCA48FCC+HBA48	0.99	1.00
CCF36FDC+HBA48+TXV03A	0.97	0.99
CHF36TCC+HBA48	0.96	0.98
CCH42FCC+HBA48	0.96	0.98
CCF42FCC+HBA48+TXV03A	0.96	0.98
CHF42TCC+HBA48	0.96	0.98

Indoor Section	Cap	Power
CCF48FCC+BBA48	0.96	0.99
CCF48FCC+BBA48+TXV03A	0.96	0.99
CCF48FDC+BBA60	0.99	0.99
CCF48FDC+BBA60+TXV03A	0.99	0.99
CHF48TCC+BBA60	0.99	0.99
BMA36F--A	0.99	1.00
BMA36F--A+TXV06A	0.99	1.00
BMA42F--A	0.99	1.00
BMA42F--A+TXV06A	0.99	1.00

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA48B2* /CCA48F*C

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power
CHA42T*C	1.00	1.14
CCA48F*C HSVTC	1.00	1.14
CCA48F*C+TXV03A	1.00	1.14
CHA48T*C	0.97	1.13
CCA54F*C	0.97	1.13
CCA54F*C+TXV03A	0.97	1.13
CHA54T*C	1.02	1.15
CCA57F*C	1.02	1.15
CCA57F*C+TXV03A	1.02	1.15
CCH48FCC	1.01	1.14
CHH48TCC	1.02	1.14
CCH60FCC	1.03	1.15
CHH60TCC	1.03	1.15
CCF42FCC	0.94	1.09

Indoor Section	Cap	Power
CCF42FCC+TXV03A	0.94	1.09
CCF48FCC	0.95	1.10
CCF48FCC+TXV03A	0.95	1.10
CCF48FDC	0.98	1.13
CCF48FDC+TXV03A	0.98	1.13
CHF48TCC	0.99	1.14
CCF60FCC	0.99	1.14
CCF60FCC+TXV03A	0.99	1.14
CHA42TCC+BBA48	1.00	1.13
CCA48FCC+BBA48	1.00	1.13
CCA48FCC+BBA48+TXV03A	1.00	1.13
CHF42TCC+BBA48	0.96	1.12
CCF42TCC+BBA48	0.95	1.12
CCF42FCC+BBA48+TXV03A	0.95	1.12

Indoor Section	Cap	Power
CCF48FCC+BBA48	0.96	1.12
CCF48FCC+BBA48+TXV03A	0.96	1.12
CHA48TCC+BBA60	0.97	1.11
CCA54FCC+BBA60	0.97	1.11
CCA54FCC+BBA60+TXV03A	0.97	1.11
CHA54TCC+BBA60	1.02	1.13
CCF48FDC+BBA60	0.98	1.12
CCF48FDC+BBA60+TXV03A	0.98	1.12
CHF48TCC+BBA60	0.99	1.12
CCF60FCC+BBA60	0.99	1.12
CCF60FCC+BBA60+TXV03A	0.99	1.12
BMA42F--A	0.97	1.11
BMA42F--A+TXV06A	0.97	1.11

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA48B3*/CCA54F*C+TXV

COOLING OPERATION

IDB*	Airflow	Outdoor Ambient Temperature																													
		65						75						85						105						115					
		59	63	67	71	75	79	59	63	67	71	75	79	59	63	67	71	75	79	59	63	67	71	75	79	59	63	67	71	75	79
70	1800	MBh	46.1	47.7	52.3	-	45.0	46.6	51.1	-	43.9	45.5	49.9	-	42.8	44.4	48.7	-	40.7	42.2	46.2	-	37.7	39.1	42.8	-					
		S/T	0.72	0.60	0.42	-	0.75	0.63	0.43	-	0.77	0.64	0.44	-	0.79	0.66	0.46	-	0.82	0.69	0.48	-	0.83	0.69	0.48	-					
		Delta T	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	16	14	11	-					
		KW	3.20	3.28	3.40	-	3.48	3.57	3.69	-	3.73	3.82	3.96	-	3.95	4.04	4.19	-	4.13	4.23	4.39	-	4.29	4.40	4.56	-					
		AMPS	9.4	9.6	9.9	-	10.1	10.3	10.6	-	10.9	11.2	11.5	-	11.6	11.9	12.3	-	12.4	12.6	13.0	-	13.1	13.4	13.8	-					
		HI PR	155	166	176	-	173	187	197	-	197	212	224	-	225	242	255	-	253	272	287	-	279	301	317	-					
		LO PR	57	61	67	-	61	65	71	-	63	67	73	-	66	71	77	-	69	74	81	-	72	76	83	-					
		MBh	44.7	46.3	50.8	-	43.7	45.3	49.6	-	42.6	44.2	48.4	-	41.6	43.1	47.2	-	39.5	41.0	44.9	-	36.6	37.9	41.6	-					
		S/T	0.69	0.58	0.40	-	0.71	0.60	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.79	0.66	0.45	-	0.79	0.66	0.46	-					
		Delta T	18	15	12	-	18	16	12	-	18	16	12	-	18	16	12	-	18	15	12	-	17	14	11	-					
KW	3.17	3.25	3.36	-	3.45	3.53	3.66	-	3.69	3.78	3.92	-	3.91	4.01	4.15	-	4.09	4.19	4.35	-	4.25	4.36	4.52	-							
AMPS	9.3	9.5	9.8	-	10.0	10.2	10.6	-	10.8	11.1	11.4	-	11.5	11.8	12.2	-	12.2	12.5	12.9	-	12.9	13.2	13.7	-							
HI PR	153	165	174	-	172	185	195	-	195	210	222	-	222	239	253	-	250	269	284	-	277	298	314	-							
LO PR	57	61	66	-	60	64	70	-	62	66	73	-	66	70	76	-	69	73	80	-	71	76	83	-							
MBh	41.3	42.8	46.9	-	40.3	41.8	45.8	-	39.4	40.8	44.7	-	38.4	39.8	43.6	-	36.5	37.8	41.4	-	33.8	35.0	38.4	-							
S/T	0.67	0.56	0.38	-	0.69	0.58	0.40	-	0.71	0.59	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.76	0.64	0.44	-							
Delta T	18	16	12	-	18	16	12	-	18	16	12	-	18	16	12	-	18	16	12	-	17	15	11	-							
KW	3.09	3.16	3.27	-	3.36	3.44	3.56	-	3.59	3.68	3.81	-	3.80	3.89	4.04	-	3.98	4.08	4.23	-	4.13	4.24	4.39	-							
AMPS	9.1	9.3	9.5	-	9.7	10.0	10.3	-	10.5	10.8	11.1	-	11.2	11.5	11.9	-	11.9	12.2	12.6	-	12.6	12.9	13.3	-							
HI PR	148	160	169	-	167	179	189	-	189	204	215	-	216	232	245	-	243	261	276	-	268	289	305	-							
LO PR	55	59	64	-	58	62	68	-	61	64	70	-	64	68	74	-	67	71	78	-	69	73	80	-							
75	1800	MBh	46.8	48.2	52.2	56.0	45.7	47.1	51.0	54.7	44.7	46.0	49.8	53.4	43.6	44.9	48.6	52.1	41.4	42.6	46.1	49.5	38.3	39.5	42.7	45.9					
		S/T	0.82	0.74	0.56	0.36	0.85	0.76	0.58	0.37	0.87	0.78	0.59	0.38	0.90	0.81	0.61	0.39	0.94	0.84	0.63	0.41	0.94	0.84	0.64	0.41					
		Delta T	20	18	15	10	20	18	15	10	20	18	15	10	20	18	15	10	20	18	15	10	18	17	14	10					
		KW	3.23	3.31	3.43	3.55	3.51	3.60	3.73	3.86	3.76	3.85	3.99	4.14	3.98	4.08	4.23	4.39	4.17	4.27	4.43	4.59	4.33	4.44	4.60	4.77					
		AMPS	9.5	9.7	10.0	10.3	10.2	10.4	10.7	11.1	11.0	11.3	11.6	12.0	11.7	12.0	12.4	12.8	12.5	12.8	13.2	13.7	13.2	13.5	13.9	14.4					
		HI PR	156	168	177	185	175	189	199	208	199	214	227	236	227	244	258	269	255	275	290	303	282	304	321	334					
		LO PR	58	62	67	72	61	65	71	76	64	68	74	79	67	71	78	83	70	75	82	87	73	77	84	90					
		MBh	45.5	46.8	50.7	54.4	44.4	45.7	49.5	53.1	43.4	44.6	48.3	51.9	42.3	43.6	47.1	50.6	40.2	41.4	44.8	48.1	37.2	38.3	41.5	44.5					
		S/T	0.78	0.70	0.53	0.34	0.81	0.73	0.55	0.35	0.83	0.75	0.56	0.36	0.86	0.77	0.58	0.37	0.89	0.80	0.60	0.39	0.90	0.81	0.61	0.39					
		Delta T	20	19	15	11	21	19	16	11	21	19	16	11	21	19	16	11	21	19	16	11	19	18	15	10					
KW	3.20	3.28	3.40	3.52	3.48	3.57	3.69	3.83	3.73	3.82	3.96	4.10	3.95	4.04	4.19	4.35	4.13	4.23	4.39	4.55	4.29	4.40	4.56	4.73							
AMPS	9.4	9.6	9.9	10.2	10.1	10.3	10.6	11.0	10.9	11.2	11.5	11.9	11.6	11.9	12.3	12.7	12.4	12.6	13.1	13.5	13.1	13.4	13.8	14.3							
HI PR	155	166	176	183	174	187	197	206	197	212	224	234	225	242	255	266	253	272	287	300	279	301	317	331							
LO PR	57	61	67	71	61	65	71	75	63	67	73	78	66	71	77	82	69	74	81	86	72	76	83	89							
MBh	42.0	43.2	46.8	50.2	41.0	42.2	45.7	49.0	40.0	41.2	44.6	47.9	39.0	40.2	43.5	46.7	37.1	38.2	41.3	44.4	34.4	35.4	38.3	41.1							
S/T	0.76	0.68	0.51	0.33	0.78	0.70	0.53	0.34	0.80	0.72	0.54	0.35	0.83	0.74	0.56	0.36	0.86	0.77	0.58	0.37	0.87	0.78	0.59	0.38							
Delta T	21	19	16	11	21	19	16	11	21	19	16	11	21	20	16	11	21	19	16	11	20	18	15	10							
KW	3.11	3.19	3.30	3.42	3.39	3.47	3.59	3.72	3.63	3.71	3.85	3.99	3.84	3.93	4.07	4.22	4.02	4.12	4.27	4.42	4.17	4.28	4.43	4.60							
AMPS	9.1	9.3	9.6	10.0	9.8	10.1	10.4	10.7	10.6	10.9	11.2	11.6	11.3	11.6	12.0	12.4	12.0	12.3	12.7	13.2	12.7	13.0	13.4	13.9							
HI PR	150	161	170	178	168	181	191	199	191	206	218	227	218	235	248	258	245	264	279	291	271	292	308	321							
LO PR	56	59	65	69	59	63	68	73	61	65	71	76	64	68	75	80	67	72	78	83	70	74	81	86							

* Entering Indoor Dry Bulb Temperature

NOTE: Shaded area is ACCA (TVA) conditions

COOLING PERFORMANCE DATA

VCA48B3* EXPANDED PERFORMANCE DATA MODEL: VCA48B3* / CCA54F*C+TXV

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power	Indoor Section	Cap	Power	Indoor Section	Cap	Power
CHA42T°C	1.02	1.13		0.98	1.12			
	1.02	1.13	CCF48FCC+TXV03A	0.98	1.12			
CCA48F°C+TXV03A	1.02	1.13		1.01	1.15			
CHA48T°C	1.00	1.14	CCF48FDC+TXV03A	1.01	1.15			
CCA54F°C+TXV03A HSVTC	1.00	1.14	CHF48TCC	1.02	1.15			
	1.00	1.00		1.02	1.15			
CHA54T°C	1.05	1.16	CCF60FCC+TXV03A	1.02	1.15			
	1.05	1.16						
CCA57F°C+TXV03A	1.05	1.16						
CCH48FCD+TXV03A	1.04	1.15						
CHH48TCD	1.04	1.15						
CCH60FCD+TXV03A	1.08	1.17						
CHH60TCD	1.08	1.17						

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA60B2*/CCA60F*C

COOLING OPERATION

IDB*	Airflow	Outdoor Ambient Temperature																								
		65				75				85				95				105				115				
		59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	
70	2250	MBh	57.0	59.1	64.7	-	55.7	57.7	63.2	-	54.4	56.3	61.7	-	53.0	55.0	60.2	-	50.4	52.2	57.2	-	46.7	48.4	53.0	-
		S/T	0.72	0.60	0.42	-	0.75	0.63	0.43	-	0.77	0.64	0.44	-	0.79	0.66	0.46	-	0.82	0.69	0.48	-	0.83	0.69	0.48	-
		Delta T	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	17	15	11	-	16	14	10	-
		KW	4.47	4.59	4.75	-	4.88	5.00	5.19	-	5.23	5.37	5.57	-	5.55	5.69	5.90	-	5.82	5.96	6.19	-	6.05	6.20	6.43	-
		AMPS	19.1	19.6	20.2	-	20.7	21.2	21.9	-	22.5	23.1	23.9	-	24.1	24.7	25.6	-	25.7	26.3	27.2	-	27.3	27.9	28.9	-
	1900	HI PR	168	181	191	-	189	203	215	-	215	231	244	-	245	263	278	-	275	296	313	-	304	327	346	-
		LO PR	60	64	70	-	64	68	74	-	66	70	77	-	69	74	81	-	73	77	84	-	75	80	87	-
		MBh	55.4	57.4	62.9	-	54.1	56.0	61.4	-	52.8	54.7	59.9	-	51.5	53.4	58.5	-	48.9	50.7	55.5	-	45.3	47.0	51.5	-
		S/T	0.69	0.58	0.40	-	0.71	0.60	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.79	0.66	0.45	-	0.79	0.66	0.46	-
		Delta T	18	16	12	-	19	16	12	-	19	16	12	-	19	16	12	-	19	16	12	-	17	15	11	-
1750	KW	4.43	4.54	4.71	-	4.83	4.95	5.14	-	5.19	5.32	5.51	-	5.50	5.64	5.85	-	5.76	5.91	6.13	-	5.99	6.14	6.37	-	
	AMPS	18.9	19.4	20.1	-	20.5	21.0	21.7	-	22.3	22.9	23.6	-	23.9	24.5	25.3	-	25.5	26.1	27.0	-	27.0	27.7	28.6	-	
	HI PR	167	179	189	-	187	201	213	-	213	229	242	-	242	261	275	-	273	293	310	-	301	324	342	-	
	LO PR	60	63	69	-	63	67	73	-	65	70	76	-	69	73	80	-	72	77	84	-	74	79	86	-	
	MBh	54.5	56.5	61.9	-	53.3	55.2	60.5	-	52.0	53.9	59.0	-	50.7	52.6	57.6	-	48.2	49.9	54.7	-	44.6	46.3	50.7	-	
75	2250	S/T	0.67	0.56	0.38	-	0.69	0.58	0.40	-	0.71	0.59	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.76	0.63	0.44	-
		Delta T	19	16	13	-	19	17	13	-	19	17	13	-	19	17	13	-	19	17	13	-	18	16	12	-
		KW	4.36	4.47	4.64	-	4.76	4.87	5.05	-	5.10	5.23	5.43	-	5.41	5.54	5.75	-	5.67	5.81	6.03	-	5.89	6.04	6.27	-
		AMPS	18.6	19.1	19.7	-	20.2	20.7	21.4	-	22.0	22.5	23.3	-	23.5	24.1	24.9	-	25.0	25.7	26.5	-	26.6	27.2	28.2	-
		HI PR	164	176	186	-	184	198	209	-	209	225	238	-	238	256	271	-	268	288	305	-	296	319	336	-
	1900	LO PR	59	62	68	-	62	66	72	-	64	68	75	-	68	72	78	-	71	75	82	-	73	78	85	-
		MBh	58.0	59.7	64.6	69.3	56.6	58.3	63.1	67.7	55.3	56.9	61.6	66.1	53.9	55.5	60.1	64.5	51.2	52.8	57.1	61.3	47.5	48.9	52.9	56.8
		S/T	0.82	0.74	0.56	0.36	0.85	0.76	0.58	0.37	0.87	0.78	0.59	0.38	0.90	0.81	0.61	0.39	0.94	0.84	0.63	0.41	0.94	0.84	0.64	0.41
		Delta T	19	18	15	10	20	18	15	10	20	18	15	10	20	18	15	10	20	18	15	10	18	17	14	10
		KW	4.52	4.63	4.80	4.98	4.92	5.05	5.23	5.43	5.28	5.42	5.62	5.83	5.60	5.74	5.96	6.18	5.87	6.02	6.25	6.48	6.11	6.26	6.50	6.74
1750	AMPS	19.3	19.8	20.4	21.2	20.9	21.4	22.1	23.0	22.7	23.3	24.1	25.0	24.3	24.9	25.8	26.8	25.9	26.6	27.5	28.6	27.5	28.2	29.2	30.3	
	HI PR	170	183	193	202	191	205	217	226	217	234	247	257	247	266	281	293	278	299	316	330	307	331	349	364	
	LO PR	61	65	71	75	64	68	75	79	67	71	77	83	70	75	81	87	73	78	85	91	76	81	88	94	
	MBh	56.3	58.0	62.7	67.3	55.0	56.6	61.3	65.8	53.7	55.3	59.8	64.2	52.4	53.9	58.4	62.6	49.7	51.2	55.4	59.5	46.1	47.4	51.4	55.1	
	S/T	0.78	0.70	0.53	0.34	0.81	0.73	0.55	0.35	0.83	0.75	0.56	0.36	0.86	0.77	0.58	0.37	0.89	0.80	0.60	0.39	0.90	0.81	0.61	0.39	

* Entering Indoor Dry Bulb Temperature

NOTE: Shaded area is ACCA (TVA) conditions

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA60B2*/CCA60F*C

COOLING OPERATION

IDB* Airflow		Outdoor Ambient Temperature																													
		75						85						95						105						115					
		59	63	67	71	75	79	59	63	67	71	75	79	59	63	67	71	75	79	59	63	67	71	75	79	59	63	67	71	75	79
80	2250	MBh	59.0	60.3	64.4	68.9	57.6	58.9	62.9	67.3	56.3	57.5	61.4	65.7	54.9	56.1	59.9	64.1	52.1	53.3	56.9	60.9	48.3	49.4	52.7	56.4					
		S/T	0.90	0.85	0.69	0.51	0.93	0.88	0.71	0.53	0.96	0.90	0.73	0.55	1.00	0.93	0.75	0.56	1.00	0.96	0.78	0.59	1.00	0.97	0.79	0.59					
		Delta T	22	21	18	14	22	21	18	15	22	21	18	15	22	21	18	15	22	21	18	15	20	20	17	14					
		KW	4.56	4.67	4.85	5.03	4.97	5.10	5.28	5.48	5.33	5.47	5.67	5.89	5.66	5.80	6.02	6.24	5.93	6.08	6.31	6.55	6.16	6.32	6.56	6.81					
		AMPS	19.5	19.9	20.6	21.4	21.1	21.6	22.3	23.2	23.0	23.5	24.3	25.3	24.6	25.2	26.0	27.0	26.2	26.8	27.8	28.8	27.8	28.5	29.5	30.6					
		HI/PR	172	185	195	204	193	207	219	229	219	236	249	260	250	269	284	296	281	302	319	333	310	334	353	368					
	1900	LO/PR	61	65	71	76	65	69	75	80	67	72	78	83	71	75	82	88	74	79	86	92	77	82	89	95					
		MBh	57.3	58.5	62.5	66.9	56.0	57.2	61.1	65.3	54.6	55.8	59.6	63.7	53.3	54.5	58.2	62.2	50.6	51.7	55.3	59.1	46.9	47.9	51.2	54.7					
		S/T	0.86	0.81	0.66	0.49	0.89	0.84	0.68	0.51	0.91	0.86	0.70	0.52	0.94	0.88	0.72	0.54	0.98	0.92	0.75	0.56	0.99	0.93	0.75	0.56					
		Delta T	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	22	21	19	15					
		KW	4.52	4.63	4.80	4.98	4.92	5.05	5.24	5.43	5.29	5.42	5.62	5.83	5.60	5.74	5.96	6.19	5.87	6.02	6.25	6.48	6.11	6.26	6.50	6.74					
		AMPS	19.3	19.8	20.4	21.2	20.9	21.4	22.1	23.0	22.7	23.3	24.1	25.0	24.3	24.9	25.8	26.8	25.9	26.6	27.5	28.6	27.5	28.2	29.2	30.3					
1750	HI/PR	170	183	193	202	191	205	217	226	217	234	247	257	247	266	281	293	278	299	316	330	307	331	349	364						
	LO/PR	61	65	71	75	64	68	75	79	67	71	77	83	70	75	81	87	73	78	85	91	76	81	88	94						
	MBh	56.4	57.7	61.6	65.9	55.1	56.3	60.2	64.3	53.8	55.0	58.7	62.8	52.5	53.6	57.3	61.3	49.9	51.0	54.4	58.2	46.2	47.2	50.4	53.9						
	S/T	0.83	0.78	0.63	0.47	0.86	0.81	0.66	0.49	0.88	0.83	0.67	0.50	0.91	0.85	0.69	0.52	0.94	0.89	0.72	0.54	0.95	0.89	0.73	0.54						
	Delta T	25	24	20	16	25	24	21	17	25	24	21	17	25	24	21	17	25	24	21	16	23	22	19	15						
	KW	4.45	4.56	4.72	4.90	4.85	4.97	5.15	5.35	5.20	5.33	5.53	5.74	5.51	5.65	5.86	6.09	5.78	5.92	6.15	6.38	6.01	6.16	6.39	6.63						
1750	AMPS	19.0	19.5	20.1	20.9	20.6	21.1	21.8	22.6	22.4	22.9	23.7	24.6	24.0	24.6	25.4	26.4	25.5	26.2	27.1	28.1	27.1	27.8	28.7	29.8						
	HI/PR	167	180	190	198	188	202	213	222	213	230	243	253	243	262	276	288	273	294	311	324	302	325	343	358						
	LO/PR	60	64	69	74	63	67	73	78	66	70	76	81	69	73	80	85	72	77	84	89	75	79	87	92						
	85	2250	MBh	60.0	61.2	64.1	68.4	58.6	59.8	62.6	66.8	57.2	58.4	61.1	65.2	55.9	56.9	59.6	63.6	53.1	54.1	56.6	60.4	49.1	50.1	52.5	56.0				
			S/T	0.95	0.91	0.82	0.67	0.98	0.95	0.85	0.69	1.00	0.97	0.87	0.71	1.00	1.00	0.90	0.73	1.00	1.00	0.94	0.76	1.00	1.00	0.94	0.77				
			Delta T	23	23	22	19	23	23	22	19	23	23	22	19	23	23	22	19	22	22	22	19	20	20	20	18				
KW			4.60	4.72	4.89	5.07	5.02	5.14	5.33	5.54	5.39	5.52	5.73	5.94	5.71	5.85	6.07	6.30	5.98	6.14	6.37	6.61	6.22	6.38	6.62	6.87					
AMPS			19.7	20.1	20.8	21.6	21.3	21.8	22.5	23.4	23.2	23.7	24.6	25.5	24.8	25.4	26.3	27.3	26.4	27.1	28.0	29.1	28.0	28.7	29.7	30.9					
HI/PR			174	187	197	206	195	210	221	231	221	238	252	262	252	271	287	299	284	305	322	336	314	337	356	372					
1900		LO/PR	62	66	72	77	65	70	76	81	68	72	79	84	71	76	83	88	75	80	87	93	77	82	89	96					
		MBh	58.3	59.4	62.2	66.4	56.9	58.0	60.8	64.8	55.6	56.7	59.3	63.3	54.2	55.3	57.9	61.8	51.5	52.5	55.0	58.7	47.7	48.6	50.9	54.3					
		S/T	0.90	0.87	0.79	0.64	0.93	0.90	0.81	0.66	0.96	0.92	0.83	0.68	0.99	0.95	0.86	0.70	1.00	0.99	0.89	0.73	1.00	1.00	0.90	0.73					
		Delta T	25	25	24	20	26	25	24	21	26	25	24	21	26	26	24	21	25	25	24	21	23	24	22	19					
		KW	4.56	4.67	4.85	5.03	4.97	5.10	5.28	5.48	5.33	5.47	5.67	5.89	5.66	5.80	6.02	6.24	5.93	6.08	6.31	6.55	6.16	6.32	6.56	6.81					
		AMPS	19.5	19.9	20.6	21.4	21.1	21.6	22.3	23.2	23.0	23.5	24.3	25.3	24.6	25.2	26.0	27.0	26.2	26.8	27.8	28.8	27.8	28.5	29.5	30.6					
1750	HI/PR	172	185	195	204	193	207	219	229	219	236	249	260	250	269	284	296	281	302	319	333	310	334	353	368						
	LO/PR	61	65	71	76	65	69	75	80	67	72	78	83	71	75	82	88	74	79	86	92	77	82	89	95						
	MBh	57.4	58.5	61.3	65.4	56.1	57.2	59.9	63.9	54.7	55.8	58.4	62.4	53.4	54.4	57.0	60.8	50.7	51.7	54.2	57.8	47.0	47.9	50.2	53.5						
	S/T	0.87	0.84	0.76	0.61	0.90	0.87	0.78	0.64	0.92	0.89	0.80	0.65	0.95	0.92	0.83	0.67	0.99	0.96	0.86	0.70	1.00	0.96	0.87	0.71						
	Delta T	26	26	24	21	27	26	25	21	27	26	25	21	27	26	25	22	26	26	25	21	25	24	23	20						
	KW	4.49	4.60	4.77	4.95	4.89	5.01	5.20	5.40	5.25	5.38	5.58	5.79	5.56	5.71	5.92	6.14	5.83	5.98	6.20	6.44	6.06	6.22	6.45	6.70						
1750	AMPS	19.2	19.6	20.3	21.1	20.8	21.3	22.0	22.8	22.6	23.2	23.9	24.9	24.2	24.8	25.6	26.6	25.8	26.4	27.3	28.4	27.3	28.0	29.0	30.1						
	HI/PR	169	182	192	200	190	204	215	225	216	232	245	255	246	264	279	291	276	297	314	327	305	328	347	362						
	LO/PR	60	64	70	75	64	68	74	79	66	70	77	82	70	74	81	86	73	78	85	90	75	80	88	93						

* Entering Indoor Dry Bulb Temperature

NOTE: Shaded area is ARI Rating Conditions

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA60B2* / CCA60F*C

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power	Indoor Section	Cap	Power	Indoor Section	Cap	Power
CCA57F*C	0.99	1.11	CCF60FCC+TXV03A	0.97	1.09			
CCA57F*C+TXV03A	0.99	1.11	CCA57FCC+BBA60	1.00	1.12			
CHA57T*C	1.00	1.11	CCA57FCC+BBA60+TXV03A	1.00	1.13			
CCA60F*C HSVTC	1.00	1.11	CHA57TCC+BBA60	1.01	1.13			
CCA60F*C+TXV03A	1.00	1.11	CCA60FCC+BBA60	1.01	1.13			
CHA60T*C	1.03	1.13	CCA60FCC+BBA60+TXV03A	1.01	1.13			
CCH48FCC,D	1.00	1.11	CHA60TCC+BBA60	1.02	1.13			
CCH48FCD+TXV03A	1.00	1.11	CHF48TCC+BBA60	0.96	1.10			
CHH48TCC,D	1.00	1.11	CCF60FCC+BBA60	0.96	1.10			
CCH60FCC,D	1.03	1.12	CCF60FCC+BBA60+TXV03A	0.96	1.10			
CCH60FCD+TXV03A	1.03	1.12						
CHH60TCC,D	1.03	1.12						
CHF48TCC	0.97	1.09						
CCF60FCC	0.97	1.09						

PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: VCA60B3* / CCA60F*C+TXV

Multipliers for Cooling Expanded Performance Data with Mix Matched Indoor Sections

Indoor Section	Cap	Power	Indoor Section	Cap	Power
CCA60F*C+TXV03A	1.00	1.12			
CHA60T*C	1.00	1.12			
	1.01	1.13			
	1.01	1.12			
CCH60FCD+TXV03A	1.01	1.12			
CHH60TCD	1.01	1.12			
CHF48TCC	0.95	1.09			
	0.95	1.09			
CCF60FCC+TXV03A	0.95	1.09			
	0.99	1.11			
CCF61FCC+TXV03A	0.99	1.11			
CHF60TCC	0.99	1.11			

PERFORMANCE DATA

PERFORMANCE TEST

All data based upon listed indoor dry bulb temperature. .00 inches external static pressure on coil of outdoor section. Indoor air cubic feet per minute (CFM) as listed in the Performance Data Sheets:

If conditions vary from this, results will change as follows:

1. As indoor dry bulb temperatures increase, a slight increase will occur in indoor air temperature drop (ΔT). Low and high side pressures and power will not change.
2. As indoor CFM decreases, a slight increase will occur in indoor temperature drop (ΔT). A slight decrease will occur in low and high side pressures and power.

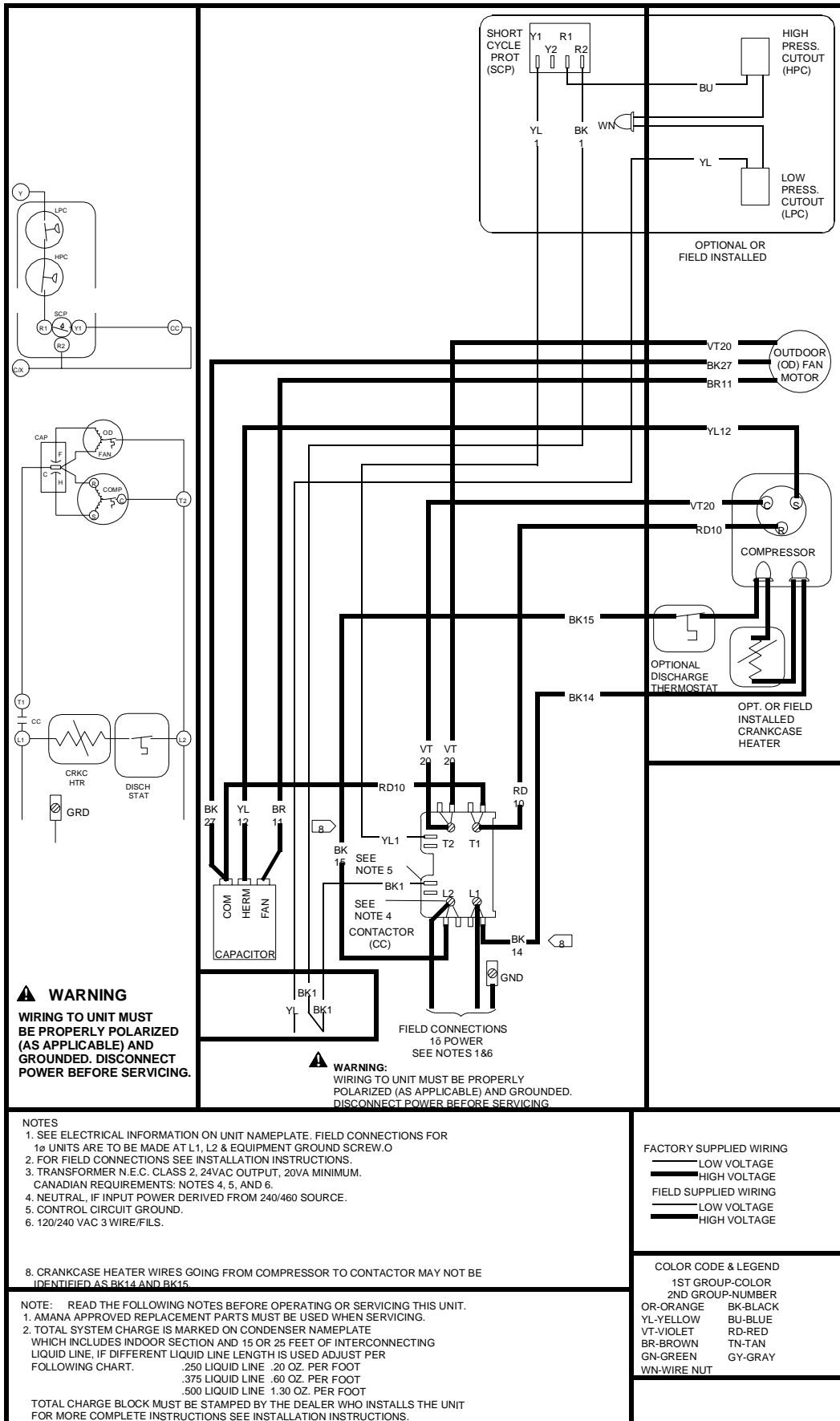
A properly operating unit should be within plus or minus **3 degrees** of the typical (ΔT) value shown.

A properly operating unit should be within plus or minus **7 PSIG** of the **head pressure** shown.

A properly operating unit should be within plus or minus **3 PSIG** of the **suction pressure** shown.

A properly operating unit should be within plus or minus **3 Amps** of the typical value shown.

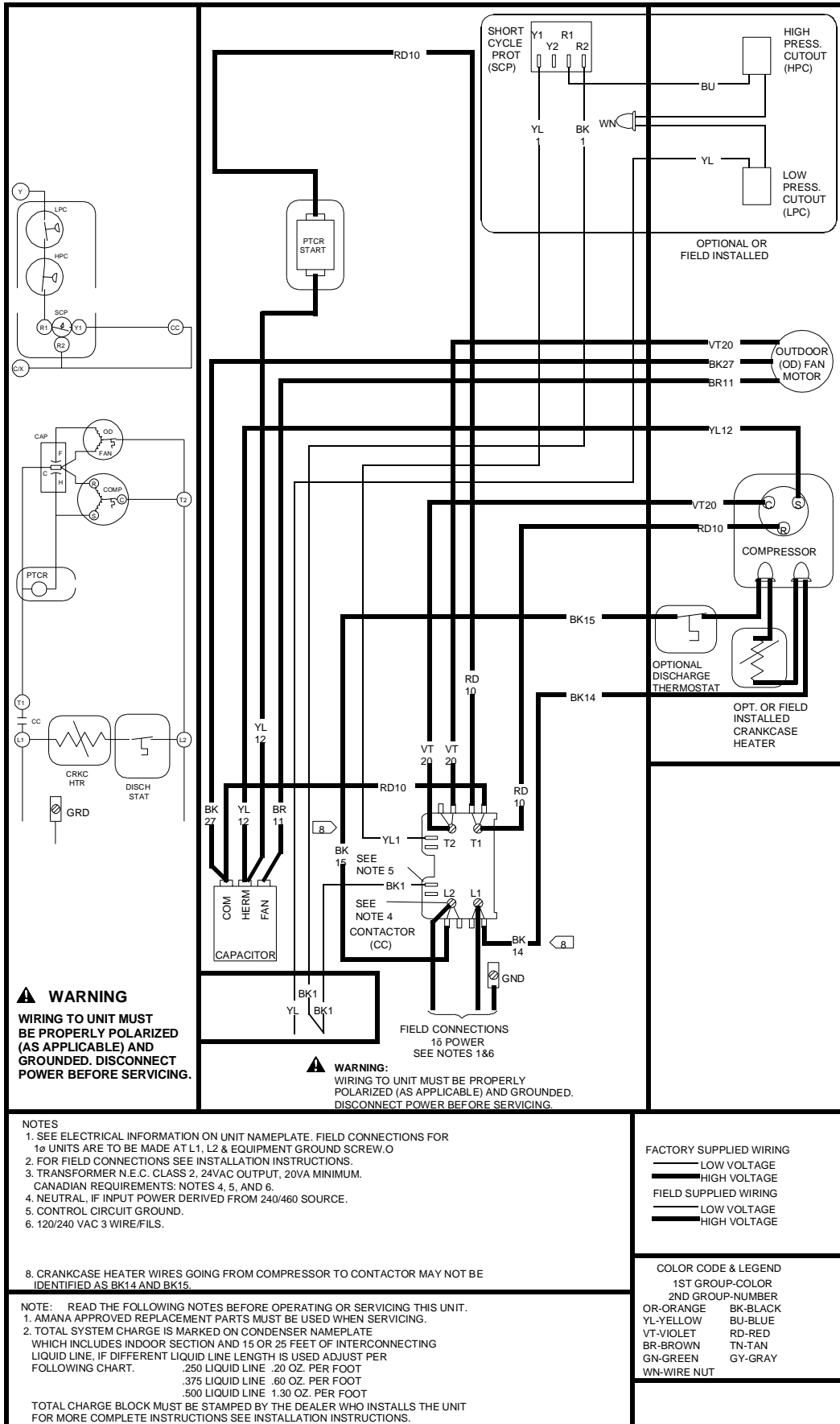
WIRING DIAGRAMS



TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

WIRING DIAGRAMS



WARNING
 WIRING TO UNIT MUST BE PROPERLY POLARIZED (AS APPLICABLE) AND GROUNDED. DISCONNECT POWER BEFORE SERVICING.

WARNING:
 WIRING TO UNIT MUST BE PROPERLY POLARIZED (AS APPLICABLE) AND GROUNDED. DISCONNECT POWER BEFORE SERVICING.

NOTES

1. SEE ELECTRICAL INFORMATION ON UNIT NAMEPLATE. FIELD CONNECTIONS FOR 1⁰ UNITS ARE TO BE MADE AT L1, L2 & EQUIPMENT GROUND SCREW.
2. FOR FIELD CONNECTIONS SEE INSTALLATION INSTRUCTIONS.
3. TRANSFORMER N.E.C. CLASS 2, 24VAC OUTPUT, 20VA MINIMUM. CANADIAN REQUIREMENTS: NOTES 4, 5, AND 6.
4. NEUTRAL, IF INPUT POWER DERIVED FROM 240/460 SOURCE.
5. CONTROL CIRCUIT GROUND.
6. 120/240 VAC 3 WIRE/FILS.

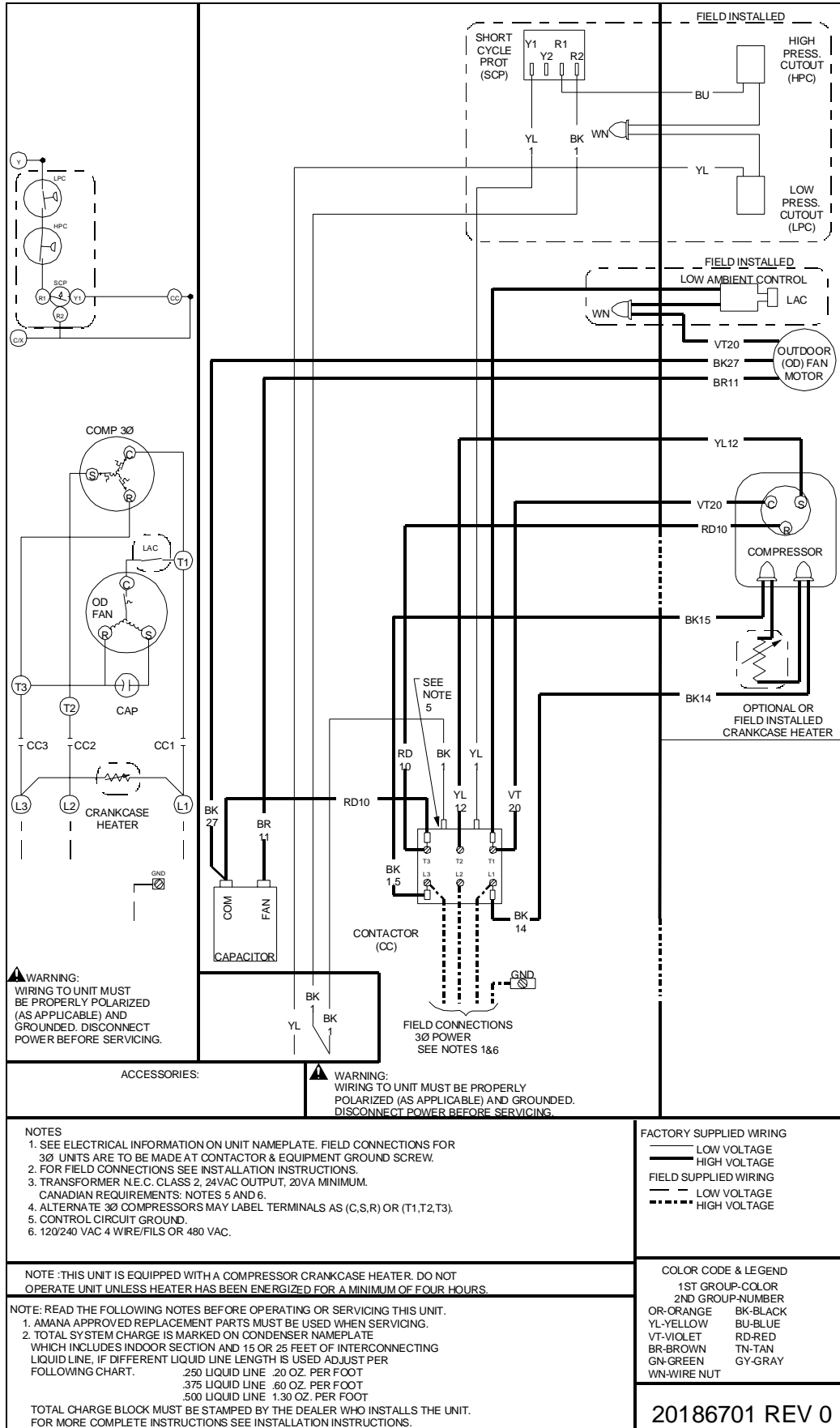
8. CRANKCASE HEATER WIRES GOING FROM COMPRESSOR TO CONTACTOR MAY NOT BE IDENTIFIED AS BK14 AND BK15.

NOTE: READ THE FOLLOWING NOTES BEFORE OPERATING OR SERVICING THIS UNIT.
 1. AMANA APPROVED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
 2. TOTAL SYSTEM CHARGE IS MARKED ON CONDENSER NAMEPLATE WHICH INCLUDES INDOOR SECTION AND 15 OR 25 FEET OF INTERCONNECTING LIQUID LINE, IF DIFFERENT LIQUID LINE LENGTH IS USED ADJUST PER FOLLOWING CHART.
 .250 LIQUID LINE .20 OZ. PER FOOT
 .375 LIQUID LINE .60 OZ. PER FOOT
 .500 LIQUID LINE 1.30 OZ. PER FOOT
 TOTAL CHARGE BLOCK MUST BE STAMPED BY THE DEALER WHO INSTALLS THE UNIT FOR MORE COMPLETE INSTRUCTIONS SEE INSTALLATION INSTRUCTIONS.

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

WIRING DIAGRAMS



TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

