



Virginia KMP Suction Line Accumulators

The Virginia KMP suction line accumulator's purpose is to prevent excessive quantities of liquid refrigerant and oil from returning to the compressor. This can result from periods of low demand, low ambient temperatures or mismatched equipment. Uncontrolled amounts of refrigerant and lubricant returning as liquid to a compressor which is not designed to compress liquid is likely to result in severe damage. Proper lubrication may also be seriously impaired by dilution of the lubricant, or by bearing surfaces being washed by liquid refrigerant. The result can be broken valves or rods, locked rotors, worn bearings, or even electrical grounding of the compressor motor. A Virginia KMP suction line accumulator is one of the best defenses against this problem. When installed properly in the suction line, as close to the compressor as possible, the accumulator captures the liquid refrigerant and oil mixture, and meters their return at a safe rate. In situations where you have a compressor experiencing some of the problems described above, or if you want to avoid any of these situations, a properly sized suction line accumulator is the solution to the problem.

Available in standard U-tube, U-tube with offset connections or stand pipe configurations. All models have solid, hardened copper connectors except VA models 30-4S, 32-6S, 44-5SRD, 44-6SRD, 610-7SRD, 610-9SRD, 611-11SRD, and 616-13SRD which have connections that are copper plated steel.

Manufactured in the USA in our ISO 9001 registered facility. All accumulators are UL listed (SA4835) and CSA approved (LR41494).

CHARACTERISTICS:

- Low pressure drop.
- Capacities ranging from 1/2 to 28-1/2 tons.
- Provides positive oil return at all rated conditions.
- Connection configurations consistent with many OEM models.
- Several different configurations are available to make replacement of OEM models a snap.
- Acts as a suction muffler.
- Powder coated finish salt spray rated to 1000 hours.
- Fusible relief device on larger models.
- 300 psig (21 bar) safe working pressure.



APPLICATIONS:

Any air conditioning, heat pump or refrigeration application in which protection from liquid migration in the off cycle and protection from liquid slugging in the running mode is desired.

COMPATIBILITY:

- CFC, HCFC and HFC refrigerants.



SUCTION LINE ACCUMULATORS

APPLICATION

Accumulators have been used for many years, first appearing as original equipment, but more recently as aftermarket supplied and field supplied equipment. Although application data has been available, its significance with respect to accumulator and system performance has never been clarified. Engineers have been forced to evaluate each model in terms of the system on which it is being applied. Selection in the field has been primarily based on suction line fitting size and on selecting a model large enough to hold about half of the refrigerant charge. There is no rating standard for accumulators at the present time. The accuracy of rating data becomes a function of the type of equipment used to determine the ratings.

RATING DATA

1. Refrigerant Holding Capacity.

The refrigerant holding capacity of the Virginia Accumulator is based on an average condition of 65% fill under running conditions. It is obvious that at startup or after long off cycles the amount held may fluctuate from empty to nearly full.

2. Minimum Suction Line Temperature at Accumulator.

The development of the Virginia Accumulator has covered a span of many years. It is, without a doubt, the most comprehensive research study ever made of conditions affecting accumulator operation. It has required a study, literally degree by degree, of what happens to the refrigerant-oil mixture in the suction line over a temperature range of -50°F to +40°F. This study resulted in some startling revelations about the behavior of the oil-refrigerant mixture in the suction line. It is new information not previously available and is vital to the design and performance of accumulators.

The value of -40°F, as a minimum evaporator temperature was chosen because it appears to be adequate for commercial refrigeration and is conservative enough to provide a margin of safety. More important is the requirement that the temperature of the suction gas at the accumulator be +10°F or higher. Particularly with refrigerants such as R-502 in the low temperature range (up to 0°F), the oil and refrigerant separate into two layers with the upper layer being the oil rich layer. At these low temperatures, the oil rich layer can become so viscous that it will not flow. When the refrigerant below the heavy oil layer leaves the accumulator, the very thick oil settles over the oil return port and stops all oil return.

This condition will occur regardless of accumulator design. If temperatures below +10°F are likely to be experienced at the accumulator, auxiliary heat must be added to keep the oil fluid.

3. Maximum Tonnage Rating.

Maximum recommended actual tonnage is based on pressure drop through the accumulator sufficient to cause a 1°F effect on evaporator temperature.

4. Minimum Tonnage Rating.

Minimum recommended actual tonnage is based on the minimum flow through the accumulator required to insure positive oil return.

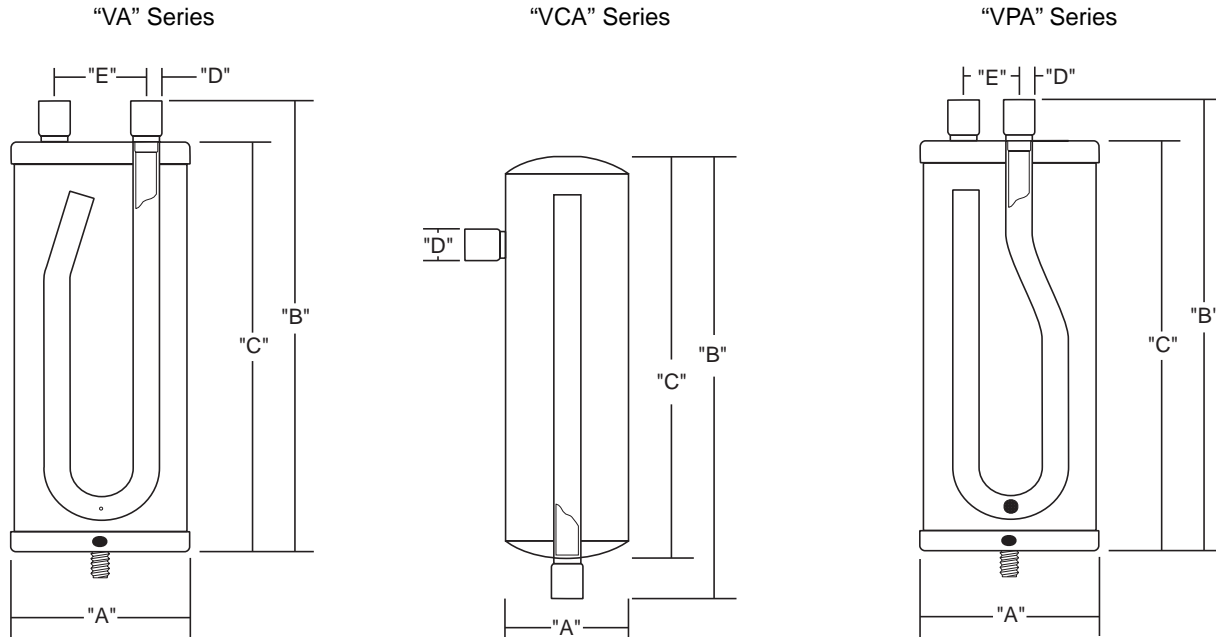
5. Other Operating Conditions.

For operating conditions outside of Virginia's published ratings, please consult Virginia KMP Corp., Dallas, Texas before proceeding.

INSTALLATION INSTRUCTIONS

1. Apply only within the rating conditions unless a deviation in writing is obtained from Virginia KMP Corp., Dallas, Texas.
2. Locate the accumulator as close to the compressor as possible.
3. In systems employing a reverse cycle, the accumulator must be installed between the reversing valve and the compressor.
4. Proper inlet (from evaporator) and outlet (to compressor) orientation must be observed.
5. The accumulator must be installed upright.
6. Proper sizing of an accumulator may not necessarily result in the accumulator connections matching the suction line size. This new rating method must replace the dangerous and outmoded practice of matching the accumulator connections to the suction line size.
7. The accumulator should not be installed in a bypass line or in suction lines that experience other than total refrigerant flow.
8. When installing a Virginia Accumulator, direct the torch flame away from vessel. *If coating is damaged during installation, the surface should be cleaned and coated with a rust proof paint or galvanizing spray.*

DIMENSIONS:



Catalog Number	Unit Weight		"A" Diameter		"B" Overall Length		"C" Vessel Length		"D" Connection Size		"E" Fitting Separation		Liquid Holding Capacity ¹
	Lbs.	(Kg)	Inches (mm)	(± 1/4 Inch [6 mm])	Inches (mm)	(± 1/4 Inch [6 mm])	Inches (mm)	(± 1/4 Inch [6 mm])	Inches (mm)	(mm)	Inches (mm)	(mm)	
VA-30-4S	1.7	(0.8)	3	(76.0)	8-1/4	(209.0)	7-1/4	(184.0)	1/2	(13.0)	1-5/8	(41.0)	2 LBS
VA-31-5S	1.9	(0.9)	3	(76.0)	10-3/8	(264.0)	9-3/8	(238.0)	5/8	(16.0)	1-5/8	(41.0)	2.5 LBS
VA-32-5S	2.1	(1.0)	3	(76.0)	12-3/8	(314.0)	11-1/2	(292.0)	5/8	(16.0)	1-5/8	(41.0)	3 LBS
VA-32-6S	2.1	(1.0)	3	(76.0)	12-5/8	(321.0)	11-1/2	(292.0)	3/4	(19.0)	1-5/8	(41.0)	3 LBS
VCA-32-6S	2.1	(1.0)	3	(76.0)	11	(279.0)	10-3/8	(263.0)	3/4	(19.0)	---	---	2.5 LBS
VCA-33-7S	2.1	(1.0)	3	(76.0)	13	(330.0)	12-1/4	(311.0)	7/8	(22.0)	---	---	3 LBS
VA-35-5S	2.7	(1.2)	3	(76.0)	15-1/16	(383.0)	13-3/4	(349.0)	5/8	(16.0)	1-5/8	(41.0)	3.5 LBS
VA-35-6S	2.7	(1.2)	3	(76.0)	15-1/16	(383.0)	13-3/4	(349.0)	3/4	(19.0)	1-5/8	(41.0)	3.5 LBS
VA-44-5SRD	4.3	(1.9)	4	(102.0)	10-3/4	(273.0)	9-15/16	(252.0)	5/8	(16.0)	2-1/2	(64.0)	5 LBS
VA-44-6SRD	4.3	(1.9)	4	(102.0)	10-5/8	(270.0)	9-3/4	(248.0)	3/4	(19.0)	2-1/2	(64.0)	5 LBS
VCA-45-7S	4.3	(1.9)	4	(102.0)	12-3/8	(314.0)	11-1/2	(292.0)	7/8	(22.0)	---	---	5.5 LBS
VA-54-6SRD	5.2	(2.4)	5	(127.0)	9-5/8	(244.0)	8-1/2	(216.0)	3/4	(19.0)	2-3/4	(70.0)	6 LBS
VA-54-7SRD	5.2	(2.4)	5	(127.0)	9-3/4	(244.0)	8-1/2	(216.0)	7/8	(22.0)	2-3/4	(70.0)	6 LBS
VA-55-7SRD	7.0	(3.2)	5	(127.0)	10-3/4	(273.0)	9-1/2	(241.0)	7/8	(22.0)	3	(76.0)	7.5 LBS
VA-56-6SRD	7.9	(3.6)	5	(127.0)	12-3/4	(324.0)	11-5/8	(295.0)	3/4	(19.0)	2-3/4	(70.0)	9 LBS
VA-56-7SRD	7.9	(3.6)	5	(127.0)	13	(330.0)	11-3/4	(298.0)	7/8	(22.0)	2-3/4	(70.0)	9 LBS
VA-57-7SRD	8.1	(3.7)	5	(127.0)	14-5/8	(371.0)	13-3/8	(340.0)	7/8	(22.0)	2-3/4	(70.0)	9.5 LBS
VA-57-9SRD	8.1	(3.7)	5	(127.0)	14-13/16	(376.0)	13-3/8	(340.0)	1-1/8	(29.0)	2-3/4	(70.0)	9.5 LBS
VPA-589-6SRD	5.1	(2.3)	5	(127.0)	9-5/8	(244.0)	8-5/16	(211.0)	3/4	(19.0)	1-1/2	(38.0)	5.9 LBS
VPA-589-7SRD	4.9	(2.2)	5	(127.0)	9-5/8	(244.0)	8-1/8	(206.0)	7/8	(22.0)	1-1/2	(38.0)	6 LBS
VPA-5811-6SRD	6.8	(3.1)	5	(127.0)	11-5/16	(288.0)	10	(255.0)	3/4	(19.0)	1-1/2	(38.0)	7 LBS
VPA-5811-7SRD	6.0	(2.7)	5	(127.0)	11-5/16	(288.0)	9-13/16	(249.0)	7/8	(22.0)	1-1/2	(38.0)	7 LBS
VPA-5812-7SRD	7.7	(3.5)	5	(127.0)	12-7/8	(327.0)	11-3/8	(289.0)	7/8	(22.0)	1-1/2	(38.0)	8 LBS
VPA-5815-7SRD	8.4	(3.8)	5	(127.0)	15-3/8	(389.0)	13-13/16	(351.0)	7/8	(22.0)	1-1/2	(38.0)	9.9 LBS
VPA-5817-7SRD	9.6	(4.4)	5	(127.0)	17-1/4	(438.0)	15-3/4	(400.0)	7/8	(22.0)	1-1/2	(38.0)	11.3 LBS
VA-59-9SRD	8.4	(3.8)	5	(127.0)	18-3/8	(467.0)	16-15/16	(430.0)	1-1/8	(29.0)	2-3/4	(70.0)	12 LBS
VA-59-11SRD	8.4	(3.8)	5	(127.0)	18-7/16	(468.0)	16-15/16	(430.0)	1-3/8	(35.0)	2-3/4	(70.0)	12 LBS
VA-610-7SRD	11.8	(5.4)	6	(152.0)	13-7/8	(352.0)	12-5/8	(321.0)	7/8	(22.0)	2-15/16	(75.0)	12 LBS
VA-610-9SRD	11.8	(5.4)	6	(152.0)	14	(356.0)	12-5/8	(321.0)	1-1/8	(29.0)	2-15/16	(75.0)	12 LBS
VA-611-11SRD	12.4	(5.6)	6	(152.0)	15-1/4	(387.0)	13-3/4	(349.0)	1-3/8	(35.0)	2-15/16	(75.0)	13 LBS
VA-615-11SRD	15.9	(7.2)	6	(152.0)	19-1/2	(495.3)	18	(457.0)	1-1/8	(29.0)	2-15/16	(75.0)	18 LBS
VA-616-13SRD	16.3	(7.4)	6	(152.0)	21-7/8	(556.0)	20-1/4	(514.0)	1-5/8	(41.0)	2-15/16	(75.0)	20 LBS

¹R-22 @ 40°F evaporator temperature

FLOW CAPACITY:

Catalog Number	Refrigerant 12			Refrigerant 22					
	+40°F (+4°C)	+20°F (-6°C)	0°F (-17°C)	+40°F (+4°C)	+20°F (-6°C)	0°F (-17°C)	+40°F (+4°C)	+20°F (-6°C)	0°F (-17°C)
VA-30-4S	1.1 (3.9)	0.8 (2.7)	0.5 (1.7)	2.0 (7.0)	1.3 (4.6)	0.9 (3.1)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)
VA-31-5S	1.7 (5.9)	1.1 (4.0)	0.7 (2.5)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)
VA-32-5S	1.7 (5.9)	1.1 (4.0)	0.7 (2.5)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)
VA-32-6S	2.2 (7.8)	1.5 (5.3)	1.0 (3.4)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)
VCA-32-6S	2.2 (7.8)	1.5 (5.3)	1.0 (3.4)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)
VCA-33-7S	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-35-5S	1.7 (5.9)	1.1 (4.0)	0.7 (2.5)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)
VA-35-6S	2.2 (7.8)	1.5 (5.3)	1.0 (3.4)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)
VA-44-5SRD	1.7 (5.9)	1.1 (4.0)	0.7 (2.5)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)	3.0 (10.6)	2.0 (6.9)	1.3 (4.7)
VA-44-6SRD	2.2 (7.8)	1.5 (5.3)	1.0 (3.4)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)
VCA-45-7S	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-54-6SRD	2.2 (7.8)	1.5 (5.3)	1.0 (3.4)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)
VA-54-7SRD	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-55-7SRD	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-56-6SRD	2.2 (7.8)	1.5 (5.3)	1.0 (3.4)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)	4.0 (14.1)	2.6 (9.2)	1.8 (6.2)
VA-56-7SRD	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-57-7SRD	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-57-9SRD	6.6 (23.0)	4.5 (15.7)	2.8 (10.0)	11.8 (41.5)	7.7 (27.0)	5.2 (18.4)	11.8 (41.5)	7.7 (27.0)	5.2 (18.4)
VPA-589-6SRD	2.2 (7.7)	1.5 (5.3)	1.0 (3.5)	4.0 (14.1)	2.6 (9.1)	1.8 (6.3)	4.0 (14.1)	2.6 (9.1)	1.8 (6.3)
VPA-589-7SRD	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VPA-5811-6SRD	4.4 (15.5)	3.1 (10.9)	2.0 (7.0)	7.5 (26.4)	5.0 (17.6)	3.4 (12.0)	7.5 (26.4)	5.0 (17.6)	3.4 (12.0)
VPA-5811-7SRD	4.1 (14.4)	2.8 (9.8)	1.8 (6.3)	7.3 (25.7)	4.8 (16.9)	3.2 (11.3)	7.3 (25.7)	4.8 (16.9)	3.2 (11.3)
VPA-5812-7SRD	4.3 (15.1)	3.0 (10.6)	2.3 (8.1)	6.3 (22.2)	4.5 (15.8)	3.0 (10.6)	6.3 (22.2)	4.5 (15.8)	3.0 (10.6)
VPA-5815-7SRD	4.5 (15.8)	3.1 (10.9)	2.0 (7.0)	10.4 (36.6)	6.9 (24.3)	3.7 (13.0)	10.4 (36.6)	6.9 (24.3)	3.7 (13.0)
VPA-5817-7SRD	5.4 (19.0)	4.1 (14.4)	2.5 (8.8)	11.2 (39.4)	7.4 (26.0)	4.9 (17.2)	11.2 (39.4)	7.4 (26.0)	4.9 (17.2)
VA-59-9SRD	6.6 (23.0)	4.5 (15.7)	2.8 (10.0)	11.8 (41.5)	7.7 (27.0)	5.2 (18.4)	11.8 (41.5)	7.7 (27.0)	5.2 (18.4)
VA-59-11SRD	10.4 (36.7)	7.1 (25.1)	4.5 (15.9)	18.8 (66.1)	12.3 (43.1)	8.3 (29.3)	18.8 (66.1)	12.3 (43.1)	8.3 (29.3)
VA-610-7SRD	4.1 (14.3)	2.8 (9.7)	1.8 (6.2)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)	7.3 (25.7)	4.8 (16.7)	3.2 (11.4)
VA-610-9SRD	6.6 (23.0)	4.5 (15.7)	2.8 (10.0)	11.8 (41.5)	7.7 (27.0)	5.2 (18.4)	11.8 (41.5)	7.7 (27.0)	5.2 (18.4)
VA-611-11SRD	10.4 (36.7)	7.1 (25.1)	4.5 (15.9)	18.8 (66.1)	12.3 (43.1)	8.3 (29.3)	18.8 (66.1)	12.3 (43.1)	8.3 (29.3)
VA-615-11SRD	10.4 (36.7)	7.1 (25.1)	4.5 (15.9)	18.8 (66.1)	12.3 (43.1)	8.3 (29.3)	18.8 (66.1)	12.3 (43.1)	8.3 (29.3)
VA-616-13SRD	15.8 (55.7)	10.8 (38.0)	6.8 (24.0)	28.5 (100.2)	18.6 (65.3)	12.6 (44.5)	28.5 (100.2)	18.6 (65.3)	12.6 (44.5)

FACTORS FOR OTHER RATINGS

Evaporator Temperature	-20°F (-28°C)	-40°F (-40°C)
X-Factor	0.28	.018

To find the capacity for -20°F (-28°C) and -40°F (-40°C) evaporator temperatures in tons, multiply the 40°F evaporator temperature by the X factor.

To find minimum capacity in tons, multiply the 40°F rating by 0.15

Maximum recommended tons based on pressure drop through the accumulator equal to 1.0°F temperature drop.

Notes:

1. Minimum recommended tons should be no less than 15% of recommended tons to insure positive oil return.
2. All data based on actual tons and is not related to horsepower.
3. Minimum evaporator temperature: -40°F. Minimum suction gas temperature through the accumulator: +10°F. For operating conditions not within the rating data, please contact Virginia KMP before proceeding with installation.



Catalog Number	Refrigerant 502					Refrigerant 134a				
	+40°F (+4°C)	+20°F (-6°C)	0°F (-17°C)	+40°F (+4°C)	+20°F (-6°C)	0°F (-17°C)				
VA-30-4S	1.3 (4.5)	0.8 (2.9)	0.5 (1.9)	1.3 (4.5)	0.9 (3.0)	0.5 (1.8)				
VA-31-5S	1.9 (6.8)	1.2 (4.3)	0.8 (2.8)	1.9 (6.7)	1.3 (4.5)	0.8 (2.8)				
VA-32-5S	1.9 (6.8)	1.2 (4.3)	0.8 (2.8)	1.9 (6.7)	1.3 (4.5)	0.8 (2.8)				
VA-32-6S	2.6 (9.1)	1.6 (5.7)	1.1 (3.8)	2.5 (8.9)	1.7 (6.0)	1.0 (3.7)				
VCA-32-6S	2.6 (9.1)	1.6 (5.7)	1.1 (3.8)	2.5 (8.9)	1.7 (6.0)	1.0 (3.7)				
VCA-33-7S	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-35-5S	1.9 (6.8)	1.2 (4.3)	0.8 (2.8)	1.9 (6.7)	1.3 (4.5)	0.8 (2.8)				
VA-35-6S	2.6 (9.1)	1.6 (5.7)	1.1 (3.8)	2.5 (8.9)	1.7 (6.0)	1.0 (3.7)				
VA-44-5SRD	1.9 (6.8)	1.2 (4.3)	0.8 (2.8)	1.9 (6.7)	1.3 (4.5)	0.8 (2.8)				
VA-44-6SRD	2.6 (9.1)	1.6 (5.7)	1.1 (3.8)	2.5 (8.9)	1.7 (6.0)	1.0 (3.7)				
VCA-45-7S	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-54-6SRD	2.6 (9.1)	1.6 (5.7)	1.1 (3.8)	2.5 (8.9)	1.7 (6.0)	1.0 (3.7)				
VA-54-7SRD	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-55-7SRD	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-56-6SRD	2.6 (9.1)	1.6 (5.7)	1.1 (3.8)	2.5 (8.9)	1.7 (6.0)	1.0 (3.7)				
VA-56-7SRD	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-57-7SRD	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-57-9SRD	7.6 (26.7)	4.8 (16.9)	3.2 (11.1)	7.5 (26.4)	5.0 (17.7)	3.1 (10.9)				
VPA-589-6SRD	2.6 (9.1)	1.6 (5.6)	1.1 (4.0)	2.5 (8.8)	1.7 (6.0)	1.0 (3.5)				
VPA-589-7SRD	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VPA-5811-6SRD	4.7 (16.5)	3.0 (10.6)	2.0 (7.0)	4.6 (16.2)	3.1 (10.9)	1.9 (6.7)				
VPA-5811-7SRD	4.5 (15.8)	2.8 (9.8)	1.8 (6.3)	4.4 (15.5)	2.8 (9.8)	1.7 (6.0)				
VPA-5812-7SRD	4.6 (16.2)	2.9 (10.2)	1.9 (6.7)	4.5 (15.8)	2.9 (10.2)	1.8 (6.3)				
VPA-5815-7SRD	4.8 (16.9)	3.2 (11.3)	2.2 (7.7)	4.7 (16.5)	3.2 (11.3)	2.0 (7.0)				
VPA-5817-7SRD	6.6 (23.2)	4.8 (16.9)	3.2 (11.3)	7.5 (26.4)	5.0 (17.6)	3.1 (10.9)				
VA-59-9SRD	7.6 (26.7)	4.8 (16.9)	3.2 (11.1)	7.5 (26.4)	5.0 (17.7)	3.1 (10.9)				
VA-59-11SRD	12.1 (42.6)	7.7 (27.0)	5.1 (17.8)	12.0 (42.1)	8.0 (28.2)	4.9 (17.3)				
VA-610-7SRD	4.7 (16.5)	3.0 (10.5)	2.0 (6.9)	4.6 (16.3)	3.1 (11.0)	1.9 (6.7)				
VA-610-9SRD	7.6 (26.7)	4.8 (16.9)	3.2 (11.1)	7.5 (26.4)	5.0 (17.7)	3.1 (10.9)				
VA-611-11SRD	12.1 (42.6)	7.7 (27.0)	5.1 (17.8)	12.0 (42.1)	8.0 (28.2)	4.9 (17.3)				
VA-615-11SRD	12.1 (42.6)	7.7 (27.0)	5.1 (17.8)	12.0 (42.1)	8.0 (28.2)	4.9 (17.3)				
VA-616-13SRD	18.4 (64.6)	11.6 (40.9)	7.7 (26.9)	18.1 (63.8)	12.2 (42.8)	7.5 (26.2)				

FACTORS FOR OTHER RATINGS

Evaporator Temperature	-20°F (-28°C)	-40°F (-40°C)
X-Factor	0.28	.018

To find the capacity for -20°F (-28°C) and -40°F (-40°C) evaporator temperatures in tons, multiply the 40°F evaporator temperature by the X factor.

To find minimum capacity in tons, multiply the 40°F rating by 0.15

Maximum recommended tons based on pressure drop through the accumulator equal to 1.0°F temperature drop.

Notes:

1. Minimum recommended tons should be no less than 15% of recommended tons to insure positive oil return.
2. All data based on actual tons and is not related to horsepower.
3. Minimum evaporator temperature: -40°F. Minimum suction gas temperature through the accumulator: +10°F. For operating conditions not within the rating data, please contact Virginia KMP before proceeding with installation.



Catalog Number	Refrigerant 407C					Refrigerant 404A / 507C				
	+40°F (+4°C)	+20°F (-6°C)	0°F (-17°C)	+20°F (-6°C)	0°F (-17°C)	-20°F (-29°C)				
VA-30-4S	1.9 (6.7)	1.2 (4.2)	0.8 (2.8)	1.4 (4.8)	0.8 (2.9)	0.6 (1.9)				
VA-31-5S	2.8 (10.0)	1.8 (6.4)	1.2 (4.2)	2.0 (7.2)	1.3 (4.4)	0.8 (2.9)				
VA-32-5S	2.8 (10.0)	1.8 (6.4)	1.2 (4.2)	2.0 (7.2)	1.3 (4.4)	0.8 (2.9)				
VA-32-6S	3.8 (13.4)	2.4 (8.5)	1.6 (5.6)	2.7 (9.6)	1.7 (5.9)	1.1 (3.9)				
VCA-32-6S	3.8 (13.4)	2.4 (8.5)	1.6 (5.6)	2.7 (9.6)	1.7 (5.9)	1.1 (3.9)				
VCA-33-7S	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-35-5S	2.8 (10.0)	1.8 (6.4)	1.2 (4.2)	2.0 (7.2)	1.3 (4.4)	0.8 (2.9)				
VA-35-6S	3.8 (13.4)	2.4 (8.5)	1.6 (5.6)	2.7 (9.6)	1.7 (5.9)	1.1 (3.9)				
VA-44-5SRD	2.8 (10.0)	1.8 (6.4)	1.2 (4.2)	2.0 (7.2)	1.3 (4.4)	0.8 (2.9)				
VA-44-6SRD	3.8 (13.4)	2.4 (8.5)	1.6 (5.6)	2.7 (9.6)	1.7 (5.9)	1.1 (3.9)				
VCA-45-7S	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-54-6SRD	3.8 (13.4)	2.4 (8.5)	1.6 (5.6)	2.7 (9.6)	1.7 (5.9)	1.1 (3.9)				
VA-54-7SRD	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-55-7SRD	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-56-6SRD	3.8 (13.4)	2.4 (8.5)	1.6 (5.6)	2.7 (9.6)	1.7 (5.9)	1.1 (3.9)				
VA-56-7SRD	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-57-7SRD	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-57-9SRD	11.2 (39.4)	7.1 (25.0)	4.7 (16.6)	8.1 (28.3)	4.9 (17.3)	3.3 (11.5)				
VPA-589-6SRD	3.8 (13.4)	2.4 (8.4)	1.6 (5.6)	2.7 (9.5)	1.7 (6.0)	1.1 (3.9)				
VPA-589-7SRD	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VPA-5811-6SRD	6.9 (24.3)	4.4 (15.5)	2.9 (10.2)	5.0 (17.6)	3.0 (10.6)	2.0 (7.0)				
VPA-5811-7SRD	6.5 (22.9)	4.2 (14.8)	2.5 (8.8)	4.7 (16.5)	2.8 (9.8)	1.8 (6.3)				
VPA-5812-7SRD	6.8 (23.9)	4.3 (15.1)	2.8 (9.8)	4.8 (16.9)	2.8 (9.8)	1.8 (6.3)				
VPA-5815-7SRD	7.0 (24.6)	4.6 (16.2)	3.2 (11.3)	5.2 (18.3)	3.2 (11.3)	2.2 (7.7)				
VPA-5817-7SRD	12.1 (42.6)	8.0 (28.1)	5.6 (19.7)	9.0 (31.7)	5.8 (20.4)	4.1 (14.4)				
VA-59-9SRD	11.2 (39.4)	7.1 (25.0)	4.7 (16.6)	8.1 (28.3)	4.9 (17.3)	3.3 (11.5)				
VA-59-11SRD	17.8 (62.7)	11.3 (39.9)	7.5 (26.4)	12.8 (45.2)	7.8 (27.6)	5.2 (18.3)				
VA-610-7SRD	6.9 (24.4)	4.4 (15.5)	2.9 (10.3)	5.0 (17.5)	3.0 (10.7)	2.0 (7.1)				
VA-610-9SRD	11.2 (39.4)	7.1 (25.0)	4.7 (16.6)	8.1 (28.3)	4.9 (17.3)	3.3 (11.5)				
VA-611-11SRD	17.8 (62.7)	11.3 (39.9)	7.5 (26.4)	12.8 (45.2)	7.8 (27.6)	5.2 (18.3)				
VA-615-11SRD	17.8 (62.7)	11.3 (39.9)	7.5 (26.4)	12.8 (45.2)	7.8 (27.6)	5.2 (18.3)				
VA-616-13SRD	27.0 (95.1)	17.2 (60.4)	11.4 (40.1)	19.5 (68.4)	11.9 (41.8)	7.9 (27.7)				

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