

SIERRA04-0982Y3
R134a / R513A / R1234yf
48/100 VDC
VARIABLE SPEED



Brushless DC Variable Speed Compressor Technical Data Sheet

General Information

Compressor Part Number	SIERRA00194	1/2" ID Suction - 5/16" ID Discharge
Compressor Drawing	DCMX33-002	#10-32 Threaded Terminal Connections
Compressor w/Fittings Part Number	SIERRA00195	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing	DCMX27-002	#10-32 Threaded Terminal Connections
Controller Options (37-60V)	025F0158, 025F0152	
Controller Options (60-97V)	025F0139, 025F0164	
Controller Options (55-110V)	025F0140-04, 025F0391	
Controller Options (75-125V)	025F0140-05, 025F0393	
Controller Options (75-125V)	025F0140-07, 025F0394	
Wiring Diagram Drawing	See controller section on website	

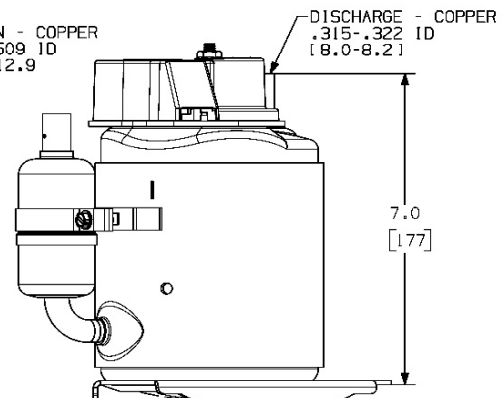
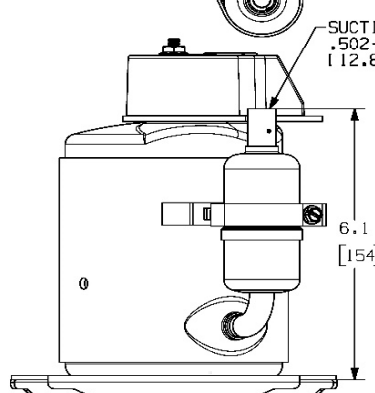
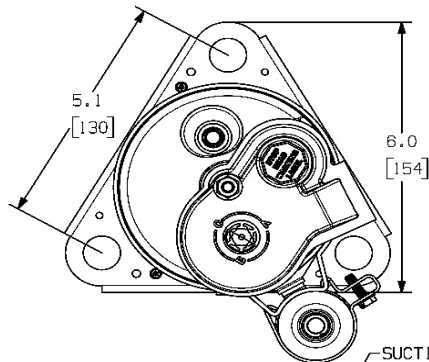
Application Information

Application	HBP, A/C
Refrigerant	R134a, R513A, R1234yf
Evaporator Temperature Range	-23.3°C to 12.8°C (-10°F to 55°F)
Condenser Temperature Range	26.7°C to 65.6°C (80°F to 150°F)
Maximum Discharge Temperature	130 °C (265 °F)
Maximum Compression Ratio	8:1
Minimum Airflow Over Compressor	425 cfm @ 6" from Outside Diameter of Housing

Design

Displacement	16.1 cm ³ (0.982 in ³)
Oil Quantity	290 cc
Oil Type	PVE 68cSt
Weight	6.4 kg / 14.1 lb
Weight with Fittings	6.5 kg / 14.3 lb

Compressor Dimensions



Packaging Options

- Single Pack (add -SP suffix to part number when ordering)
- Pallet Pack (25 piece multiples)

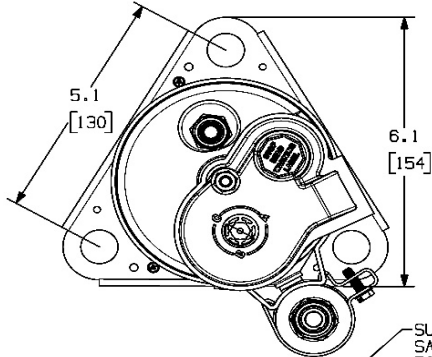
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the Sierra

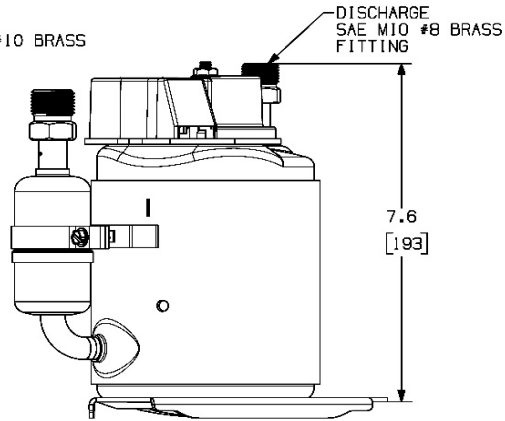
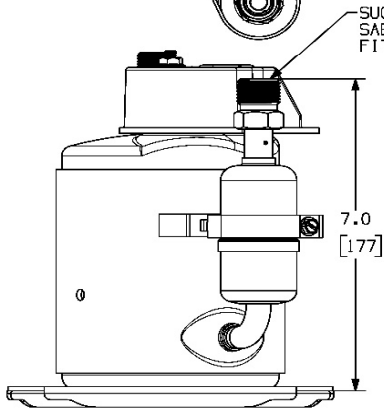
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Compressor Dimensions w/Fittings

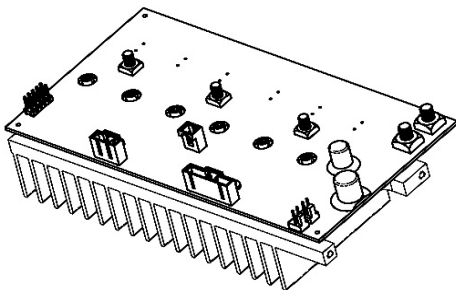


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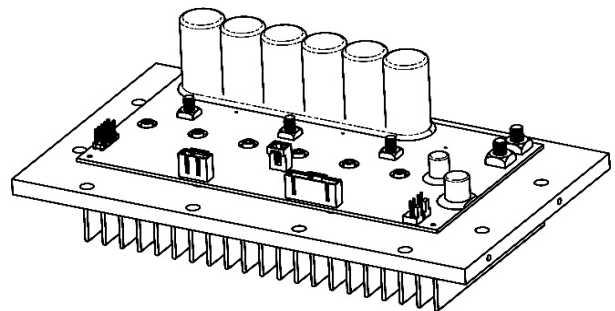


Controller Configurations (37-60V)

Custom controllers and configurations available



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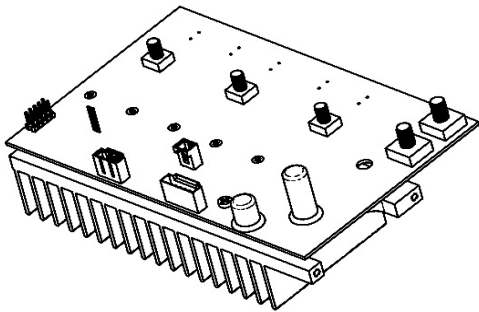
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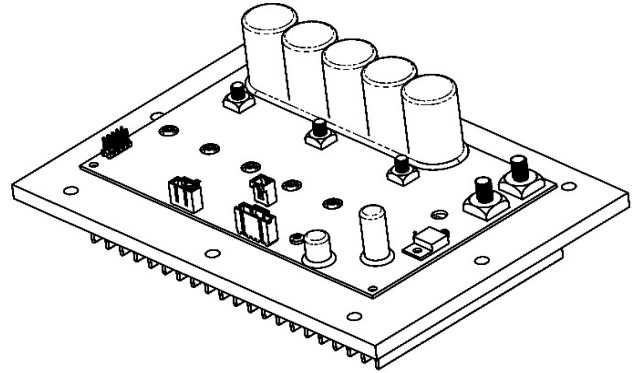


Controller Configurations (60-97V)

Custom controllers and configurations available



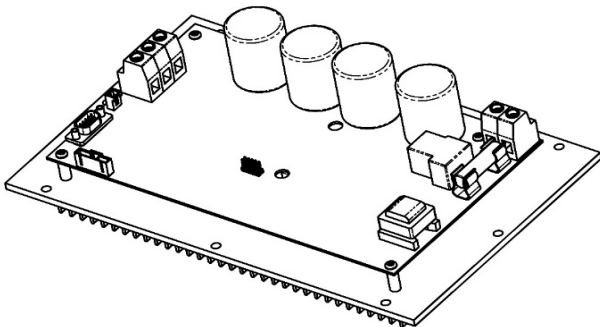
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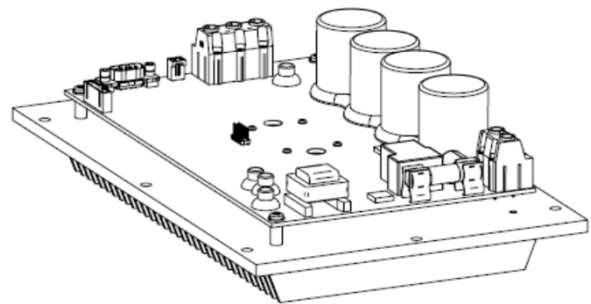
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Controller Configurations (55-110V, 75-125V & 75-145V)

Custom controllers and configurations available



**025F0140-04,
025F0140-05,
& 025F0140-07**



**025F0391,
025F0393,
& 025F0394**

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Cooling Capacity (48V) - ARI HBP - R134a / R513A BTU/hr (Watt)

RPM	Evaporator Temperature													
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)							
1800	1046 (306)	1955 (573)	2309 (676)	2725 (798)	3301 (967)	3680 (1078)	4678 (1370)							
2400	1648 (483)	2824 (827)	3363 (985)	3999 (1171)	4830 (1414)	5348 (1566)	6652 (1948)							
3000	2100 (615)	3545 (1038)	4270 (1251)	5127 (1502)	6213 (1820)	6872 (2013)	8484 (2485)							
3600	2443 (716)	4159 (1218)	5071 (1485)	6150 (1801)	7492 (2194)	8293 (2429)	10212 (2991)							

Power Consumption (48V) - ARI HBP - R134a / R513A Watt Current (48V) - ARI HBP - R134a / R513A Amp

RPM	Evaporator Temperature							Evaporator Temperature						
	-10°F	10°F	20°F	30°F	40°F	45°F	55°F	-10°F	10°F	20°F	30°F	40°F	45°F	55°F
1800	258	340	397	444	467	464	420	5.37	7.08	8.27	9.26	9.73	9.66	8.74
2400	380	431	483	531	561	564	536	7.91	8.99	10.06	11.07	11.69	11.75	11.18
3000	499	526	575	627	667	677	669	10.40	10.96	11.98	13.06	13.89	14.10	13.94
3600	618	626	675	734	786	805	820	12.88	13.04	14.07	15.28	16.38	16.78	17.08

Efficiency (48V) - ARI HBP - R134a / R513A BTU/hr/W (W/W)

RPM	Evaporator Temperature													
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)							
1800	4.05 (1.19)	5.76 (1.69)	5.82 (1.70)	6.13 (1.80)	7.07 (2.07)	7.93 (2.32)	11.15 (3.27)							
2400	4.34 (1.27)	6.55 (1.92)	6.96 (2.04)	7.53 (2.20)	8.61 (2.52)	9.48 (2.78)	12.40 (3.63)							
3000	4.21 (1.23)	6.74 (1.97)	7.43 (2.17)	8.18 (2.39)	9.32 (2.73)	10.15 (2.97)	12.68 (3.71)							
3600	3.95 (1.16)	6.64 (1.94)	7.51 (2.20)	8.38 (2.45)	9.53 (2.79)	10.30 (3.02)	12.46 (3.65)							

* all points are at 35°C (95°F) ambient temperature, 18.33°C (65°F) suction, 8.33°C (15°F) subcooling, 54.4°C (130°F) condenser

Performance Coefficients (48V) - ARI HBP - R134a / R513A

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.416978E+04	-2.046399E+03	-4.263330E+01	-2.034164E+02
C2	2.918585E+00	5.309466E-01	1.106139E-02	2.796228E-02
C3	-3.031178E-04	-3.409906E-05	-7.103971E-07	-2.825652E-06
C4	3.168748E-08	2.036591E-09	4.242899E-11	2.498261E-10
C5	2.547616E+02	1.462957E+01	3.047826E-01	1.281964E+00
C6	-7.186143E-01	8.163985E-01	1.700830E-02	7.525860E-03
C7	1.620815E-02	-2.577138E-03	-5.369038E-05	1.188066E-04
C8	3.203621E+02	3.247541E+01	6.765710E-01	4.763349E+00
C9	-2.534614E+00	-1.109907E-01	-2.312307E-03	-3.839735E-02
C10	6.128652E-03	-1.585624E-04	-3.303382E-06	9.837328E-05
C11	1.517656E-03	1.708762E-05	3.559921E-07	1.433789E-05
C12	3.295947E-08	5.528694E-09	1.151811E-10	4.227007E-10
C13	-2.017177E-07	1.954778E-06	4.072453E-08	2.606284E-08
C14	-7.799236E-06	-5.929659E-07	-1.235346E-08	-7.249366E-08
C15	-4.387516E-02	3.640357E-03	7.584078E-05	-2.738471E-04
C16	-1.033664E-02	-6.244274E-03	-1.300890E-04	-7.651051E-05
C17	-4.463238E+00	-5.623899E-01	-1.171646E-02	-2.882155E-02
C18	-4.140785E-06	-3.280219E-07	-6.833790E-09	-5.668466E-08
C19	3.143432E-04	-2.010026E-04	-4.187554E-06	1.314290E-06
C20	-1.015077E-06	1.503729E-07	3.132770E-09	-3.070176E-09
C21	6.080003E-05	2.884837E-05	6.010077E-07	4.219426E-07
C22	-3.537261E-03	-6.198249E-03	-1.291302E-04	-1.108327E-04
C23	1.952243E-02	4.085395E-03	8.511240E-05	1.413719E-04

Performance Equation

$$Y = C_1 + C_2 x_1 + C_3 x_1^2 + C_4 x_1^3 + C_5 x_2 + C_6 x_2^2 + C_7 x_2^3 + C_8 x_3 + C_9 x_3^2 + C_{10} x_3^3 + C_{11} x_1 x_2 x_3 + C_{12} x_1^2 x_2 x_3 + C_{13} x_1 x_2^2 x_3 + C_{14} x_1 x_2 x_3^2 + C_{15} x_1 x_2^2 x_3 + C_{16} x_1 x_3^2 + C_{17} x_2 x_3^2 + C_{18} x_1^2 x_2 + C_{19} x_1 x_2^2 + C_{20} x_1^2 x_3 + C_{21} x_1 x_3^2 + C_{22} x_2^2 x_3 + C_{23} x_2 x_3^2$$

x₁ = RPM
 x₂ = E_t (°F)
 x₃ = C_t (°F)

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Cooling Capacity (48V) - ARI HBP - R1234yf BTU/hr (Watt)

RPM	Evaporator Temperature													
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)							
1800	982 (288)	1835 (537)	2167 (635)	2558 (749)	3099 (908)	3455 (1012)	4392 (1286)							
2400	1547 (453)	2651 (776)	3157 (925)	3754 (1099)	4534 (1328)	5021 (1470)	6245 (1829)							
3000	1972 (577)	3328 (975)	4008 (1174)	4813 (1410)	5832 (1708)	6451 (1889)	7964 (2332)							
3600	2294 (672)	3904 (1143)	4761 (1394)	5773 (1691)	7033 (2060)	7785 (2280)	9587 (2808)							

Power Consumption (48V) - ARI HBP - R1234yf Watt Current (48V) - ARI HBP - R1234yf Amp

RPM	Evaporator Temperature							Evaporator Temperature						
	-10°F	10°F	20°F	30°F	40°F	45°F	55°F	-10°F	10°F	20°F	30°F	40°F	45°F	55°F
1800	270	355	415	465	488	485	439	5.62	7.40	8.65	9.68	10.17	10.10	9.14
2400	397	451	505	556	587	590	561	8.28	9.40	10.52	11.58	12.22	12.29	11.69
3000	522	550	601	656	697	708	700	10.87	11.46	12.52	13.66	14.52	14.75	14.57
3600	646	655	706	767	822	842	857	13.47	13.64	14.71	15.98	17.13	17.54	17.86

Efficiency (48V) - ARI HBP - R1234yf BTU/hr/W (W/W)

RPM	Evaporator Temperature													
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)							
1800	3.64 (1.07)	5.17 (1.51)	5.22 (1.53)	5.50 (1.61)	6.35 (1.86)	7.12 (2.09)	10.01 (2.93)							
2400	3.89 (1.14)	5.88 (1.72)	6.25 (1.83)	6.76 (1.98)	7.73 (2.26)	8.51 (2.49)	11.13 (3.26)							
3000	3.78 (1.11)	6.05 (1.77)	6.67 (1.95)	7.34 (2.15)	8.37 (2.45)	9.11 (2.67)	11.38 (3.33)							
3600	3.55 (1.04)	5.96 (1.75)	6.74 (1.97)	7.53 (2.20)	8.56 (2.51)	9.25 (2.71)	11.18 (3.28)							

* all points are at 35°C (95°F) ambient temperature, 18.33°C (65°F) suction, 8.33°C (15°F) subcooling, 54.4°C (130°F) condenser

Performance Coefficients (48V) - ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.330191E+04	-2.139991E+03	-4.458314E+01	-2.471842E+02
C2	2.739828E+00	5.552295E-01	1.156728E-02	3.397874E-02
C3	-2.845525E-04	-3.565858E-05	-7.428872E-07	-3.433629E-06
C4	2.974669E-08	2.129735E-09	4.436948E-11	3.035795E-10
C5	2.391580E+02	1.529865E+01	3.187219E-01	1.557796E+00
C6	-6.746008E-01	8.537365E-01	1.778618E-02	9.145150E-03
C7	1.521543E-02	-2.695004E-03	-5.614592E-05	1.443694E-04
C8	3.007406E+02	3.396067E+01	7.075140E-01	5.788247E+00
C9	-2.379374E+00	-1.160669E-01	-2.418060E-03	-4.665905E-02
C10	5.753285E-03	-1.658142E-04	-3.454463E-06	1.195396E-04
C11	1.424703E-03	1.786912E-05	3.722734E-07	1.742288E-05
C12	3.094077E-08	5.781549E-09	1.204489E-10	5.136504E-10
C13	-1.893629E-07	2.044180E-06	4.258707E-08	3.167061E-08
C14	-7.321550E-06	-6.200852E-07	-1.291844E-08	-8.809164E-08
C15	-4.118791E-02	3.806849E-03	7.930936E-05	-3.327690E-04
C16	-9.703546E-03	-6.529857E-03	-1.360387E-04	-9.297277E-05
C17	-4.189874E+00	-5.881108E-01	-1.225231E-02	-3.502289E-02
C18	-3.887171E-06	-3.430240E-07	-7.146334E-09	-6.888112E-08
C19	2.950903E-04	-2.101955E-04	-4.379072E-06	1.597077E-06
C20	-9.529061E-07	1.572503E-07	3.276047E-09	-3.730766E-09
C21	5.707616E-05	3.016775E-05	6.284948E-07	5.127292E-07
C22	-3.320612E-03	-6.481726E-03	-1.350360E-04	-1.346798E-04
C23	1.832672E-02	4.272241E-03	8.900502E-05	1.717900E-04

Performance Equation

$$Y = C_1 + C_2 x_1 + C_3 x_1^2 + C_4 x_1^3 + C_5 x_2 + C_6 x_2^2 + C_7 x_2^3 + C_8 x_3 + C_9 x_3^2 + C_{10} x_3^3 + C_{11} x_1 x_2 x_3 + C_{12} x_1^2 x_2 x_3 + C_{13} x_1 x_2^2 x_3 + C_{14} x_1 x_2 x_3^2 + C_{15} x_1 x_2^2 x_3 + C_{16} x_1 x_3^2 + C_{17} x_2 x_3^2 + C_{18} x_1^2 x_2 + C_{19} x_1 x_2^2 + C_{20} x_1^2 x_3 + C_{21} x_1 x_3^2 + C_{22} x_2^2 x_3 + C_{23} x_2 x_3^2$$

x₁ = RPM
 x₂ = E_t (°F)
 x₃ = C_t (°F)

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Cooling Capacity (100V) - ARI HBP - R134a / R513A BTU/hr (Watt)

RPM	Evaporator Temperature												
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)						
3600	2443 (716)	4159 (1218)	5071 (1485)	6150 (1801)	7492 (2194)	8293 (2429)	10212 (2991)						
4500	2844 (833)	4969 (1455)	6164 (1805)	7578 (2219)	9307 (2726)	10320 (3022)	12704 (3721)						
5500	3278 (960)	5865 (1718)	7377 (2160)	9165 (2684)	11326 (3317)	12577 (3683)	15479 (4534)						
6500	3885 (1138)	6938 (2032)	8770 (2569)	10936 (3203)	13532 (3963)	15022 (4400)	18446 (5402)						

Power Consumption (100V) - ARI HBP - R134a / R513A Watt Current (100V) - ARI HBP - R134a / R513A Amp

RPM	Evaporator Temperature							Evaporator Temperature						
	-10°F	10°F	20°F	30°F	40°F	45°F	55°F	-10°F	10°F	20°F	30°F	40°F	45°F	55°F
3600	687	696	751	816	874	895	911	6.87	6.96	7.51	8.16	8.74	8.95	9.11
4500	892	881	942	1023	1109	1148	1207	8.92	8.81	9.42	10.23	11.09	11.48	12.07
5500	1139	1123	1198	1306	1431	1493	1609	11.39	11.23	11.98	13.06	14.31	14.93	16.09
6500	1420	1415	1514	1658	1829	1920	2100	14.20	14.15	15.14	16.58	18.29	19.20	21.00

Efficiency (100V) - ARI HBP - R134a / R513A BTU/hr/W (W/W)

RPM	Evaporator Temperature												
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)						
3600	3.56 (1.04)	5.97 (1.75)	6.76 (1.98)	7.54 (2.21)	8.57 (2.51)	9.26 (2.71)	11.21 (3.28)						
4500	3.19 (0.93)	5.64 (1.65)	6.55 (1.92)	7.41 (2.17)	8.39 (2.46)	8.99 (2.63)	10.53 (3.08)						
5500	2.88 (0.84)	5.22 (1.53)	6.16 (1.80)	7.02 (2.05)	7.92 (2.32)	8.42 (2.47)	9.62 (2.82)						
6500	2.74 (0.80)	4.90 (1.44)	5.79 (1.70)	6.60 (1.93)	7.40 (2.17)	7.82 (2.29)	8.78 (2.57)						

* all points are at 35°C (95°F) ambient temperature, 18.33°C (65°F) suction, 8.33°C (15°F) subcooling, 54.4°C (130°F) condenser

Performance Coefficients (100V) - ARI HBP - R134a / R513A

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.416978E+04	-2.275186E+03	-2.275186E+01	-2.034164E+02
C2	2.918585E+00	5.903065E-01	5.903065E-03	2.796228E-02
C3	-3.031178E-04	-3.791134E-05	-3.791134E-07	-2.825652E-06
C4	3.168748E-08	2.264283E-09	2.264283E-11	2.498261E-10
C5	2.547616E+02	1.626516E+01	1.626516E-01	1.281964E+00
C6	-7.186143E-01	9.076720E-01	9.076720E-03	7.525860E-03
C7	1.620815E-02	-2.865263E-03	-2.865263E-05	1.188066E-04
C8	3.203621E+02	3.610617E+01	3.610617E-01	4.763349E+00
C9	-2.534614E+00	-1.233995E-01	-1.233995E-03	-3.839735E-02
C10	6.128652E-03	-1.762897E-04	-1.762897E-06	9.837328E-05
C11	1.517656E-03	1.899802E-05	1.899802E-07	1.433789E-05
C12	3.295947E-08	6.146803E-09	6.146803E-11	4.227007E-10
C13	-2.017177E-07	2.173322E-06	2.173322E-08	2.606284E-08
C14	-7.799236E-06	-6.592596E-07	-6.592596E-09	-7.249366E-08
C15	-4.387516E-02	4.047350E-03	4.047350E-05	-2.738471E-04
C16	-1.033664E-02	-6.942385E-03	-6.942385E-05	-7.651051E-05
C17	-4.463238E+00	-6.252652E-01	-6.252652E-03	-2.882155E-02
C18	-4.140785E-06	-3.646948E-07	-3.646948E-09	-5.668466E-08
C19	3.143432E-04	-2.234747E-04	-2.234747E-06	1.314290E-06
C20	-1.015077E-06	1.671847E-07	1.671847E-09	-3.070176E-09
C21	6.080003E-05	3.207362E-05	3.207362E-07	4.219426E-07
C22	-3.537261E-03	-6.891214E-03	-6.891214E-05	-1.108327E-04
C23	1.952243E-02	4.542143E-03	4.542143E-05	1.413719E-04

Performance Equation

$$Y = C_1 + C_2 X_1 + C_3 X_1^2 + C_4 X_1^3 + C_5 X_2 + C_6 X_2^2 + C_7 X_2^3 + C_8 X_3 + C_9 X_3^2 + C_{10} X_3^3 + C_{11} X_1 X_2 X_3 + C_{12} X_1^2 X_2 X_3 + C_{13} X_1 X_2^2 X_3 + C_{14} X_1 X_2 X_3^2 + C_{15} X_1 X_2^2 X_3 + C_{16} X_1 X_3^2 + C_{17} X_2 X_3^2 + C_{18} X_1^2 X_2 + C_{19} X_1 X_2^2 + C_{20} X_1^2 X_3 + C_{21} X_1 X_3^2 + C_{22} X_2^2 X_3 + C_{23} X_2 X_3^2$$

X₁ = RPM
 X₂ = E_t (°F)
 X₃ = C_t (°F)

SIERRA04-0982Y3



Cooling Capacity (100V) - ARI HBP - R1234yf BTU/hr (Watt)

RPM	Evaporator Temperature												
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)						
3600	2294 (672)	3904 (1143)	4761 (1394)	5773 (1691)	7033 (2060)	7785 (2280)	9587 (2808)						
4500	2670 (782)	4665 (1366)	5787 (1695)	7114 (2083)	8737 (2559)	9688 (2837)	11926 (3493)						
5500	3077 (901)	5505 (1612)	6925 (2028)	8603 (2520)	10632 (3114)	11806 (3458)	14531 (4256)						
6500	3647 (1068)	6513 (1908)	8233 (2411)	10266 (3007)	12703 (3720)	14102 (4130)	17316 (5072)						

Power Consumption (100V) - ARI HBP - R1234yf Watt Current (100V) - ARI HBP - R1234yf Amp

RPM	Evaporator Temperature							Evaporator Temperature						
	-10°F	10°F	20°F	30°F	40°F	45°F	55°F	-10°F	10°F	20°F	30°F	40°F	45°F	55°F
3600	719	728	785	853	914	936	953	7.19	7.28	7.85	8.53	9.14	9.36	9.53
4500	933	921	985	1070	1160	1200	1262	9.33	9.21	9.85	10.70	11.60	12.00	12.62
5500	1191	1174	1253	1366	1496	1561	1682	11.91	11.74	12.53	13.66	14.96	15.61	16.82
6500	1485	1480	1584	1734	1913	2008	2197	14.85	14.80	15.84	17.34	19.13	20.08	21.97

Efficiency (100V) - ARI HBP - R1234yf BTU/hr/W (W/W)

RPM	Evaporator Temperature												
	-10°F (-23°C)	10°F (-12°C)	20°F (-7°C)	30°F (-1°C)	40°F (4°C)	45°F (7°C)	55°F (13°C)						
3600	3.19 (0.93)	5.36 (1.57)	6.06 (1.78)	6.77 (1.98)	7.70 (2.25)	8.32 (2.43)	10.06 (2.95)						
4500	2.86 (0.84)	5.06 (1.48)	5.88 (1.72)	6.65 (1.95)	7.53 (2.21)	8.07 (2.36)	9.45 (2.77)						
5500	2.58 (0.76)	4.69 (1.37)	5.53 (1.62)	6.30 (1.84)	7.11 (2.08)	7.56 (2.21)	8.64 (2.53)						
6500	2.46 (0.72)	4.40 (1.29)	5.20 (1.52)	5.92 (1.73)	6.64 (1.94)	7.02 (2.06)	7.88 (2.31)						

* all points are at 35°C (95°F) ambient temperature, 18.33°C (65°F) suction, 8.33°C (15°F) subcooling, 54.4°C (130°F) condenser

Performance Coefficients (100V) - ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.330191E+04	-2.379242E+03	-2.379242E+01	-2.471842E+02
C2	2.739828E+00	6.173042E-01	6.173042E-03	3.397874E-02
C3	-2.845525E-04	-3.964522E-05	-3.964522E-07	-3.433629E-06
C4	2.974669E-08	2.367840E-09	2.367840E-11	3.035795E-10
C5	2.391580E+02	1.700904E+01	1.700904E-01	1.557796E+00
C6	-6.746008E-01	9.491844E-01	9.491844E-03	9.145150E-03
C7	1.521543E-02	-2.996306E-03	-2.996306E-05	1.443694E-04
C8	3.007406E+02	3.775748E+01	3.775748E-01	5.788247E+00
C9	-2.379374E+00	-1.290432E-01	-1.290432E-03	-4.665905E-02
C10	5.753285E-03	-1.843523E-04	-1.843523E-06	1.195396E-04
C11	1.424703E-03	1.986689E-05	1.986689E-07	1.742288E-05
C12	3.094077E-08	6.427927E-09	6.427927E-11	5.136504E-10
C13	-1.893629E-07	2.272719E-06	2.272719E-08	3.167061E-08
C14	-7.321550E-06	-6.894109E-07	-6.894109E-09	-8.809164E-08
C15	-4.118791E-02	4.232456E-03	4.232456E-05	-3.327690E-04
C16	-9.703546E-03	-7.259896E-03	-7.259896E-05	-9.297277E-05
C17	-4.189874E+00	-6.538617E-01	-6.538617E-03	-3.502289E-02
C18	-3.887171E-06	-3.813742E-07	-3.813742E-09	-6.888112E-08
C19	2.950903E-04	-2.336953E-04	-2.336953E-06	1.597077E-06
C20	-9.529061E-07	1.748309E-07	1.748309E-09	-3.730766E-09
C21	5.707616E-05	3.354051E-05	3.354051E-07	5.127292E-07
C22	-3.320612E-03	-7.206384E-03	-7.206384E-05	-1.346798E-04
C23	1.832672E-02	4.749878E-03	4.749878E-05	1.717900E-04

Performance Equation

$$Y = C_1 + C_2 X_1 + C_3 X_1^2 + C_4 X_1^3 + C_5 X_2 + C_6 X_2^2 + C_7 X_2^3 + C_8 X_3 + C_9 X_3^2 + C_{10} X_3^3 + C_{11} X_1 X_2 X_3 + C_{12} X_1^2 X_2 X_3 + C_{13} X_1 X_2^2 X_3 + C_{14} X_1 X_2 X_3^2 + C_{15} X_1 X_2^2 X_3 + C_{16} X_1 X_3^2 + C_{17} X_2 X_3^2 + C_{18} X_1^2 X_2 + C_{19} X_1 X_2^2 + C_{20} X_1^2 X_3 + C_{21} X_1 X_3^2 + C_{22} X_2^2 X_3 + C_{23} X_2 X_3^2$$

$x_1 = \text{RPM}$
 $x_2 = E_t \text{ (°F)}$
 $x_3 = C_t \text{ (°F)}$