

SIERRA03-0982Y3 High Efficiency R134a / R513A / R1234yf 24/48 V DC VARIABLE SPEED



Brushless DC Variable Speed Compressor Technical Data Sheet

General Information

Compressor Part Number	SIERRA00188	1/2" Suction - 5/16" Discharge
Compressor Drawing	DCMX33-002	#10-32 Threaded Terminal Connections
Compressor Part Number with Fittings	SIERRA00225	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing with Fittings	DCMX27-002	#10-32 Threaded Terminal Connections
Dual Compressor Part Number w/ Fittings	SIERRA00230	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing with Fittings	DCMX34-002	#10-32 Threaded Terminal Connections
Controller Options (24/48V)	025F0149, 025F0129	
Controller Options (48V)	025F0158, 025F0152	
Wiring Diagram Drawing	DEMXX0010	
Dual Comp. Controller Options (24/48V)	025F0216	
Dual Comp. Wiring Diagram Drawing	DEMXX0023	

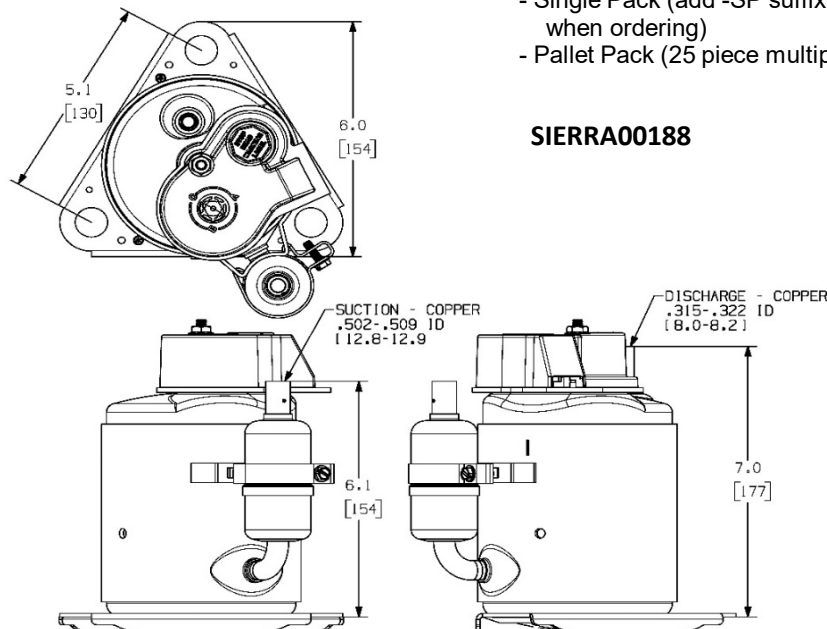
Application Information

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
Dual Compressor Oil Quantity	390 cc
Oil Type	PVE 68cSt
Weight	6.4 kg / 14.1 lb
Weight with Fittings	6.6 kg / 14.5 lb
Weight with Fittings (Dual)	6.8 kg / 14.9 lb

Compressor Dimensions



Packaging Options

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

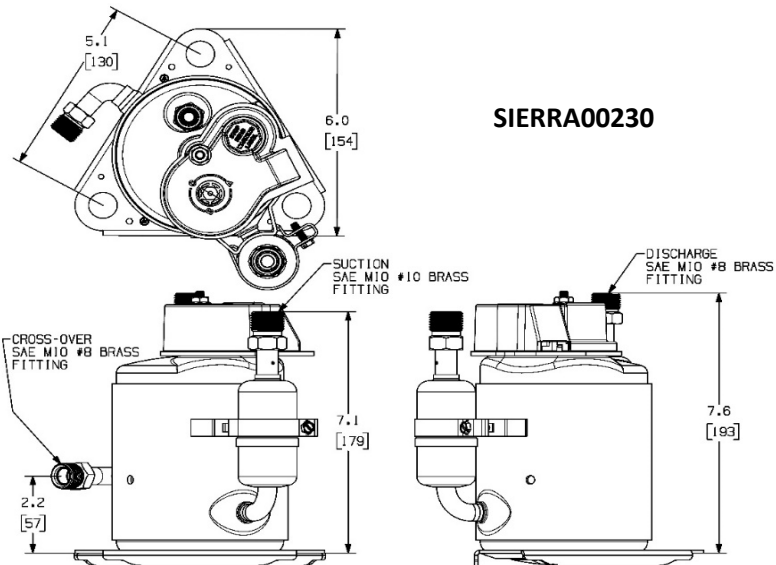
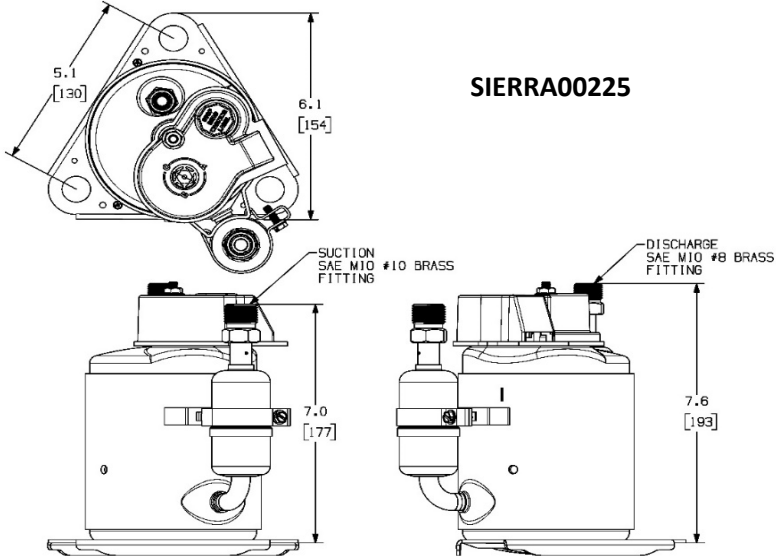
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SIERRA03-0982Y3 High Efficiency



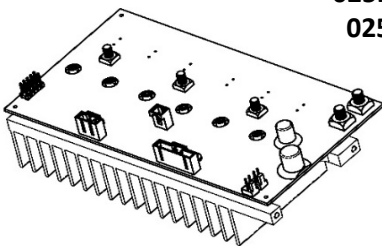
Compressor Dimensions



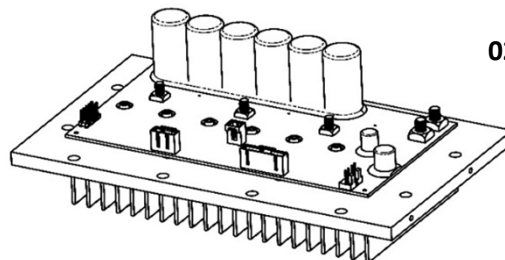
Controller Configurations

Custom controllers and configurations available

**025F0129 &
025F0152**



**025F0149 &
025F0158
025F0216 (dual)**



SIERRA03-0982Y3 High Efficiency



Cooling Capacity (24V) - 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)						
2200	1466 (429)	2553 (748)	3030 (887)	3593 (1052)	4338 (1271)	4810 (1409)	6012 (1761)						
2600	1813 (531)	3079 (902)	3680 (1078)	4389 (1285)	5305 (1554)	5870 (1719)	7277 (2131)						
3100	2164 (634)	3653 (1070)	4410 (1292)	5304 (1553)	6432 (1884)	7115 (2084)	8778 (2571)						

Power Consumption (24V) - ARI HBP - R134a / R513A Watt Current (24V) - 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	251	331	387	433	455	452	409	10.48	13.79	16.12	18.05	18.96	18.84	17.04
2200	331	391	442	489	515	516	483	13.80	16.27	18.43	20.38	21.47	21.50	20.14
2600	409	451	500	548	580	585	564	17.05	18.78	20.83	22.84	24.16	24.38	23.51
3100	506	529	576	628	668	680	675	21.08	22.02	24.00	26.15	27.84	28.32	28.14

Efficiency (24V) - 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	4.16 (1.22)	5.90 (1.73)	5.97 (1.75)	6.29 (1.84)	7.25 (2.12)	8.14 (2.38)	11.44 (3.35)						
2200	4.43 (1.30)	6.54 (1.91)	6.85 (2.01)	7.35 (2.15)	8.42 (2.47)	9.32 (2.73)	12.44 (3.64)						
2600	4.43 (1.30)	6.83 (2.00)	7.36 (2.15)	8.01 (2.34)	9.15 (2.68)	10.03 (2.94)	12.90 (3.78)						
3100	4.28 (1.25)	6.91 (2.02)	7.65 (2.24)	8.45 (2.47)	9.63 (2.82)	10.47 (3.07)	13.00 (3.81)						

* 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

* dual compressor performance values are approximately 2x capacity, power and current.

Performance Coefficients (24V) - ARI HBP - R134a / R513A

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.416978E+04	-1.995028E+03	-8.312616E+01	-3.192566E+02
C2	2.918585E+00	5.176184E-01	2.156743E-02	1.196037E-01
C3	-3.031178E-04	-3.324309E-05	-1.385129E-06	-1.364048E-05
C4	3.168748E-08	1.985468E-09	8.272783E-11	1.050394E-09
C5	2.547616E+02	1.426232E+01	5.942633E-01	5.041578E+00
C6	-7.186143E-01	7.959047E-01	3.316270E-02	-1.371262E-02
C7	1.620815E-02	-2.512445E-03	-1.046852E-04	4.439416E-04
C8	3.203621E+02	3.166018E+01	1.319174E+00	5.691673E+00
C9	-2.534614E+00	-1.082045E-01	-4.508519E-03	-3.608314E-02
C10	6.128652E-03	-1.545822E-04	-6.440926E-06	6.453203E-05
C11	1.517656E-03	1.665864E-05	6.941098E-07	5.387429E-05
C12	3.295947E-08	5.389909E-09	2.245795E-10	-6.389781E-10
C13	-2.017177E-07	1.905707E-06	7.940448E-08	8.129663E-09
C14	-7.799236E-06	-5.780807E-07	-2.408670E-08	-2.166563E-07
C15	-4.387516E-02	3.548977E-03	1.478740E-04	-2.698670E-03
C16	-1.033664E-02	-6.087525E-03	-2.536469E-04	-9.883622E-04
C17	-4.463238E+00	-5.482723E-01	-2.284468E-02	-8.957105E-02
C18	-4.140785E-06	-3.197877E-07	-1.332449E-08	4.074296E-08
C19	3.143432E-04	-1.959569E-04	-8.164870E-06	3.225454E-06
C20	-1.015077E-06	1.465982E-07	6.108258E-09	4.682304E-09
C21	6.080003E-05	2.812419E-05	1.171841E-06	4.045736E-06
C22	-3.537261E-03	-6.042656E-03	-2.517773E-04	-1.257856E-04
C23	1.952243E-02	3.982840E-03	1.659517E-04	3.810941E-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)

SIERRA03-0982Y3 High Efficiency



Cooling Capacity (24V) - 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)					
2200	1376 (403)	2396 (702)	2844 (833)	3373 (988)	4073 (1193)	4515 (1322)	5644 (1653)					
2600	1702 (499)	2890 (846)	3454 (1012)	4120 (1207)	4980 (1458)	5511 (1614)	6831 (2001)					
3100	2031 (595)	3430 (1004)	4140 (1212)	4979 (1458)	6038 (1768)	6679 (1956)	8240 (2413)					

Power Consumption (24V) - ARI HBP - R1234yf Watt Current (24V) - 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	263	346	405	453	476	473	428		10.96	14.43	16.86	18.88	19.83	19.70	17.82	
2200	346	408	463	511	539	540	506		14.43	17.02	19.28	21.31	22.45	22.48	21.06	
2600	428	471	523	573	606	612	590		17.83	19.64	21.79	23.88	25.27	25.49	24.59	
3100	529	553	602	656	699	711	706		22.04	23.03	25.10	27.35	29.12	29.61	29.43	

Efficiency (24V) - 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	3.73 (1.09)	5.30 (1.55)	5.36 (1.57)	5.65 (1.65)	6.51 (1.91)	7.31 (2.14)	10.27 (3.01)					
2200	3.97 (1.16)	5.87 (1.72)	6.15 (1.80)	6.60 (1.93)	7.56 (2.21)	8.37 (2.45)	11.16 (3.27)					
2600	3.98 (1.16)	6.13 (1.80)	6.61 (1.93)	7.19 (2.11)	8.21 (2.40)	9.01 (2.64)	11.58 (3.39)					
3100	3.84 (1.12)	6.20 (1.82)	6.87 (2.01)	7.58 (2.22)	8.64 (2.53)	9.40 (2.75)	11.67 (3.42)					

* 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

* dual compressor performance values are approximately 2x capacity, power and current.

Performance Coefficients (24V) - ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.330191E+04	-2.086271E+03	-8.692795E+01	-3.879489E+02
C2	2.739828E+00	5.412917E-01	2.255382E-02	1.453380E-01
C3	-2.845525E-04	-3.476346E-05	-1.448478E-06	-1.657542E-05
C4	2.974669E-08	2.076273E-09	8.651139E-11	1.276400E-09
C5	2.391580E+02	1.491461E+01	6.214419E-01	6.126341E+00
C6	-6.746008E-01	8.323054E-01	3.467939E-02	-1.666307E-02
C7	1.521543E-02	-2.627352E-03	-1.094730E-04	5.394615E-04
C8	3.007406E+02	3.310816E+01	1.379507E+00	6.916312E+00
C9	-2.379374E+00	-1.131532E-01	-4.714716E-03	-4.384691E-02
C10	5.753285E-03	-1.616521E-04	-6.735502E-06	7.841697E-05
C11	1.424703E-03	1.742052E-05	7.258550E-07	6.546607E-05
C12	3.094077E-08	5.636417E-09	2.348507E-10	-7.764627E-10
C13	-1.893629E-07	1.992865E-06	8.303605E-08	9.878869E-09
C14	-7.321550E-06	-6.045193E-07	-2.518830E-08	-2.632728E-07
C15	-4.118791E-02	3.711289E-03	1.546371E-04	-3.279324E-03
C16	-9.703546E-03	-6.365939E-03	-2.652474E-04	-1.201022E-03
C17	-4.189874E+00	-5.733475E-01	-2.388948E-02	-1.088435E-01
C18	-3.887171E-06	-3.344132E-07	-1.393388E-08	4.950935E-08
C19	2.950903E-04	-2.049190E-04	-8.538291E-06	3.919453E-06
C20	-9.529061E-07	1.533029E-07	6.387619E-09	5.689765E-09
C21	5.707616E-05	2.941046E-05	1.225436E-06	4.916230E-06
C22	-3.320612E-03	-6.319017E-03	-2.632924E-04	-1.528501E-04
C23	1.832672E-02	4.164996E-03	1.735415E-04	4.630916E-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)

SIERRA03-0982Y3 High Efficiency



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)						
3000	2100 (615)	3545 (1038)	4270 (1251)	5127 (1502)	6213 (1820)	6872 (2013)	8484 (2485)						
4200	2719 (796)	4707 (1379)	5808 (1701)	7109 (2082)	8709 (2551)	9651 (2827)	11880 (3479)						
5400	3230 (946)	5770 (1690)	7251 (2124)	9001 (2636)	11119 (3256)	12346 (3616)	15196 (4451)						
6500	3885 (1138)	6938 (2032)	8770 (2569)	10936 (3203)	13532 (3963)	15022 (4400)	18446 (5402)						

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	251	331	387	433	455	452	409	5.24	6.90	8.06	9.03	9.48	9.42	8.52
3000	487	513	560	611	650	660	652	10.14	10.68	11.68	12.73	13.54	13.75	13.59
4200	721	716	767	833	899	928	966	15.03	14.92	15.97	17.35	18.73	19.33	20.13
5400	976	961	1026	1118	1223	1276	1372	20.34	20.03	21.37	23.30	25.49	26.58	28.58
6500	1245	1241	1328	1454	1604	1684	1842	25.94	25.85	27.66	30.29	33.42	35.07	38.37

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	4.16 (1.22)	5.90 (1.73)	5.97 (1.75)	6.29 (1.84)	7.25 (2.12)	8.14 (2.38)	11.44 (3.35)						
3000	4.32 (1.26)	6.91 (2.02)	7.62 (2.23)	8.39 (2.46)	9.56 (2.80)	10.41 (3.05)	13.01 (3.81)						
4200	3.77 (1.10)	6.57 (1.92)	7.58 (2.22)	8.54 (2.50)	9.69 (2.84)	10.40 (3.05)	12.29 (3.60)						
5400	3.31 (0.97)	6.00 (1.76)	7.07 (2.07)	8.05 (2.36)	9.09 (2.66)	9.68 (2.83)	11.08 (3.24)						
6500	3.12 (0.91)	5.59 (1.64)	6.61 (1.93)	7.52 (2.20)	8.44 (2.47)	8.92 (2.61)	10.02 (2.93)						

* 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

* dual compressor performance values are approximately 2x capacity, power and current.

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

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.416978E+04	-1.995028E+03	-4.156308E+01	-3.192566E+02
C2	2.918585E+00	5.176184E-01	1.078372E-02	1.196037E-01
C3	-3.031178E-04	-3.324309E-05	-6.925643E-07	-1.364048E-05
C4	3.168748E-08	1.985468E-09	4.136391E-11	1.050394E-09
C5	2.547616E+02	1.426232E+01	2.971316E-01	5.041578E+00
C6	-7.186143E-01	7.959047E-01	1.658135E-02	-1.371262E-02
C7	1.620815E-02	-2.512445E-03	-5.234261E-05	4.439416E-04
C8	3.203621E+02	3.166018E+01	6.595870E-01	5.691673E+00
C9	-2.534614E+00	-1.082045E-01	-2.254260E-03	-3.608314E-02
C10	6.128652E-03	-1.545822E-04	-3.220463E-06	6.453203E-05
C11	1.517656E-03	1.665864E-05	3.470549E-07	5.387429E-05
C12	3.295947E-08	5.389909E-09	1.122898E-10	-6.389781E-10
C13	-2.017177E-07	1.905707E-06	3.970224E-08	8.129663E-09
C14	-7.799236E-06	-5.780807E-07	-1.204335E-08	-2.166563E-07
C15	-4.387516E-02	3.548977E-03	7.393701E-05	-2.698670E-03
C16	-1.033664E-02	-6.087525E-03	-1.268234E-04	-9.883622E-04
C17	-4.463238E+00	-5.482723E-01	-1.142234E-02	-8.957105E-02
C18	-4.140785E-06	-3.197877E-07	-6.662244E-09	4.074296E-08
C19	3.143432E-04	-1.959569E-04	-4.082435E-06	3.225454E-06
C20	-1.015077E-06	1.465982E-07	3.054129E-09	4.682304E-09
C21	6.080003E-05	2.812419E-05	5.859207E-07	4.045736E-06
C22	-3.537261E-03	-6.042656E-03	-1.258887E-04	-1.257856E-04
C23	1.952243E-02	3.982840E-03	8.297584E-05	3.810941E-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)

SIERRA03-0982Y3 High Efficiency



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)					
3000	1972 (577)	3328 (975)	4008 (1174)	4813 (1410)	5832 (1708)	6451 (1889)	7964 (2332)					
4200	2552 (748)	4419 (1294)	5452 (1597)	6674 (1955)	8176 (2394)	9060 (2653)	11153 (3266)					
5400	3032 (888)	5417 (1586)	6806 (1993)	8450 (2475)	10438 (3057)	11589 (3394)	14266 (4178)					
6500	3647 (1068)	6513 (1908)	8233 (2411)	10266 (3007)	12703 (3720)	14102 (4130)	17316 (5072)					

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	263	346	405	453	476	473	428	5.48	7.21	8.43	9.44	9.92	9.85	8.91
3000	509	536	586	639	680	690	682	10.60	11.17	12.21	13.32	14.16	14.38	14.21
4200	754	749	802	871	940	970	1010	15.71	15.60	16.70	18.14	19.59	20.21	21.05
5400	1021	1005	1073	1169	1279	1334	1435	21.27	20.94	22.35	24.36	26.65	27.80	29.89
6500	1302	1298	1389	1520	1677	1761	1926	27.13	27.04	28.93	31.67	34.95	36.68	40.13

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	3.73 (1.09)	5.30 (1.55)	5.36 (1.57)	5.65 (1.65)	6.51 (1.91)	7.31 (2.14)	10.27 (3.01)					
3000	3.87 (1.13)	6.21 (1.82)	6.84 (2.00)	7.53 (2.20)	8.58 (2.51)	9.35 (2.74)	11.68 (3.42)					
4200	3.38 (0.99)	5.90 (1.73)	6.80 (1.99)	7.66 (2.24)	8.70 (2.55)	9.34 (2.73)	11.04 (3.23)					
5400	2.97 (0.87)	5.39 (1.58)	6.34 (1.86)	7.23 (2.12)	8.16 (2.39)	8.69 (2.54)	9.94 (2.91)					
6500	2.80 (0.82)	5.02 (1.47)	5.93 (1.74)	6.75 (1.98)	7.57 (2.22)	8.01 (2.35)	8.99 (2.63)					

* 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

* dual compressor performance values are approximately 2x capacity, power and current.

Performance Coefficients (48V) - ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.330191E+04	-2.086271E+03	-4.346397E+01	-3.879489E+02
C2	2.739828E+00	5.412917E-01	1.127691E-02	1.453380E-01
C3	-2.845525E-04	-3.476346E-05	-7.242388E-07	-1.657542E-05
C4	2.974669E-08	2.076273E-09	4.325570E-11	1.276400E-09
C5	2.391580E+02	1.491461E+01	3.107210E-01	6.126341E+00
C6	-6.746008E-01	8.323054E-01	1.733970E-02	-1.666307E-02
C7	1.521543E-02	-2.627352E-03	-5.473650E-05	5.394615E-04
C8	3.007406E+02	3.310816E+01	6.897533E-01	6.916312E+00
C9	-2.379374E+00	-1.131532E-01	-2.357358E-03	-4.384691E-02
C10	5.753285E-03	-1.616521E-04	-3.367751E-06	7.841697E-05
C11	1.424703E-03	1.742052E-05	3.629275E-07	6.546607E-05
C12	3.094077E-08	5.636417E-09	1.174254E-10	-7.764627E-10
C13	-1.893629E-07	1.992865E-06	4.151802E-08	9.878869E-09
C14	-7.321550E-06	-6.045193E-07	-1.259415E-08	-2.632728E-07
C15	-4.118791E-02	3.711289E-03	7.731853E-05	-3.279324E-03
C16	-9.703546E-03	-6.365939E-03	-1.326237E-04	-1.201022E-03
C17	-4.189874E+00	-5.733475E-01	-1.194474E-02	-1.088435E-01
C18	-3.887171E-06	-3.344132E-07	-6.966942E-09	4.950935E-08
C19	2.950903E-04	-2.049190E-04	-4.269146E-06	3.919453E-06
C20	-9.529061E-07	1.533029E-07	3.193810E-09	5.689765E-09
C21	5.707616E-05	2.941046E-05	6.127178E-07	4.916230E-06
C22	-3.320612E-03	-6.319017E-03	-1.316462E-04	-1.528501E-04
C23	1.832672E-02	4.164996E-03	8.677074E-05	4.630916E-04

Performance Equation

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

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