

SIERRA02-0716Y3
R134a / R513A / R1234yf
12/24 V DC
VARIABLE SPEED



MASTERFLUX

Brushless DC Variable Speed Compressor Technical Data Sheet

General Information

Compressor Part Number	SIERRA00160	1/2" ID Suction - 5/16" ID Discharge
Compressor Drawing	DCMX25-002	#10-32 Threaded Terminal Connection
Compressor Part Number	SIERRA00134	1/2" ID Suction - 5/16" ID Discharge
Compressor Drawing	DCMX25-002	M5 Threaded Terminal Connection
Compressor Part Number with Fittings	SIERRA00151	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing with Fittings	DCMX38-002	#10-32 Threaded Terminal Connection
Compressor Part Number with Fittings	SIERRA00238	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing with Fittings	DCMX38-002	M5 Threaded Terminal Connection
Compressor Part Number with Fittings	SIERRA00156	M24 Suction - M22 Discharge
Compressor Drawing with Fittings	DCMX42-002	M5 Threaded Terminal Connection
Dual Compressor Part Number w/ Fittings	SIERRA00161	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing with Fittings	DCMX41-002	#10-32 Threaded Terminal Connection
Controller Options (12/24V)	025F0200, 025F0218, 025F0348 (dual)	
Wiring Diagram Drawing	DEM0020, DEM0033 (dual)	

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	11.7 cm ³ (0.716 in ³)
Oil Quantity	355 cc
Dual Compressor Oil Quantity	455 cc
Oil Type	PVE 68cSt
Compressor Weight	6.6 kg / 14.7 lb
Compressor Weight with Fittings	6.8 kg / 15.0 lb
Dual Compressor Weight with Fittings	7.0 kg / 15.4 lb

Packaging Options

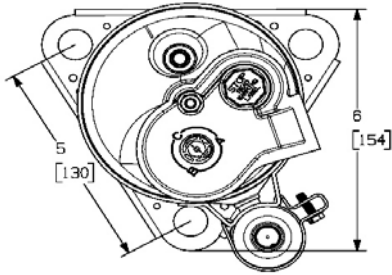
- Single Pack (add -SP suffix to part number when ordering)
- Pallet Pack (25 piece multiples)

the Sierra

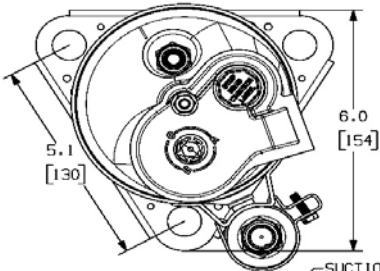
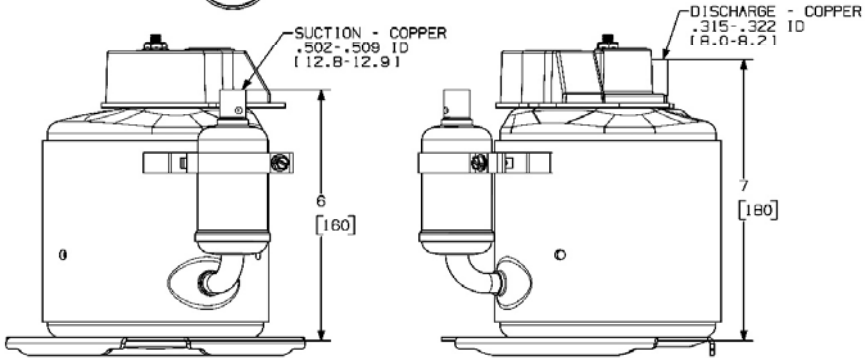
SIERRA02-0716Y3



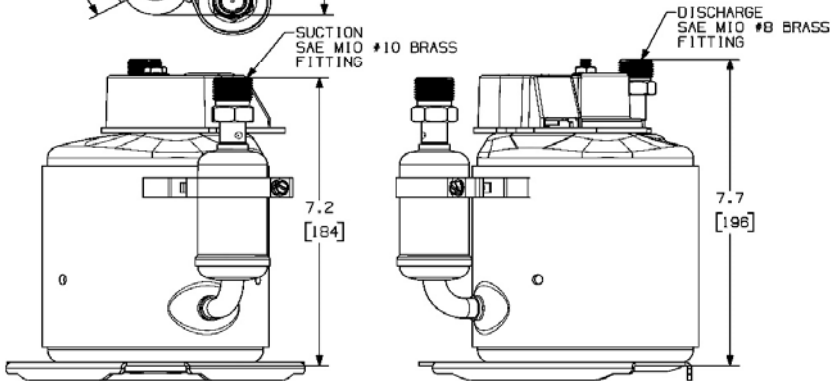
Compressor Dimensions



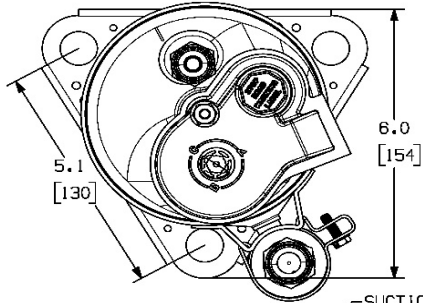
SIERRA00160
SIERRA00134



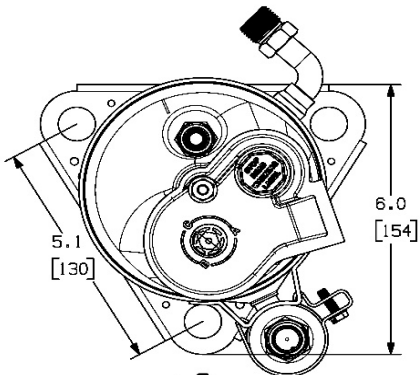
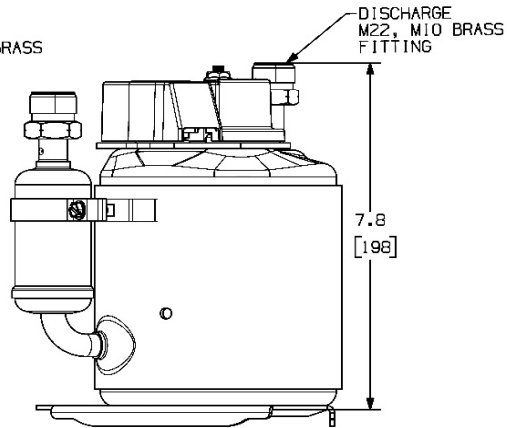
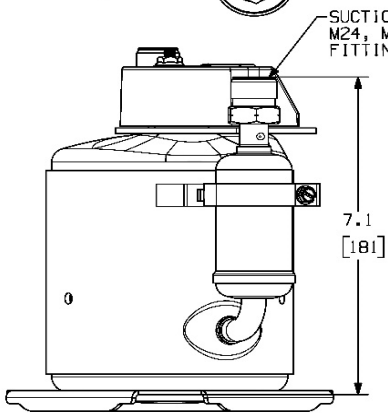
SIERRA00151



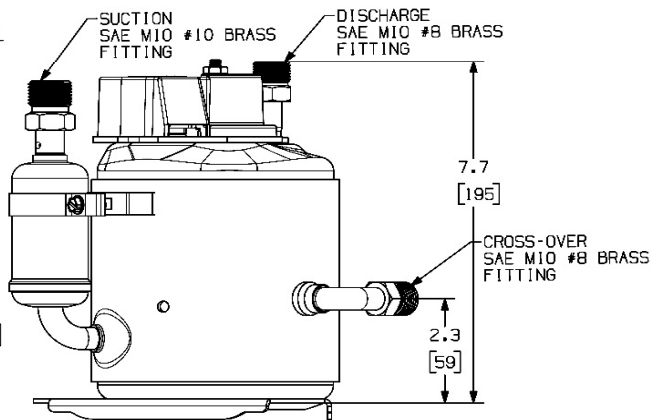
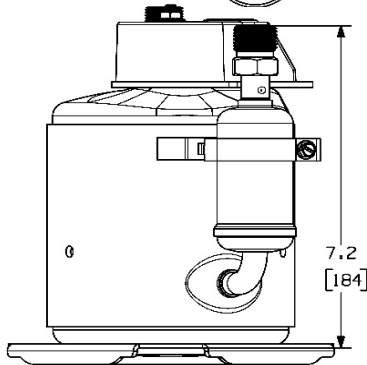
Compressor Dimensions



SIERRA00156

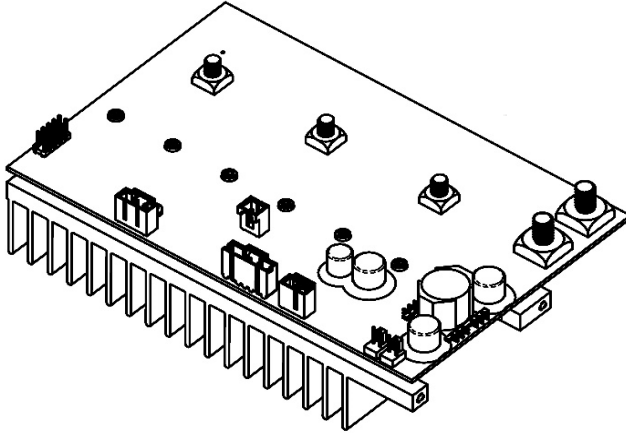


SIERRA00161

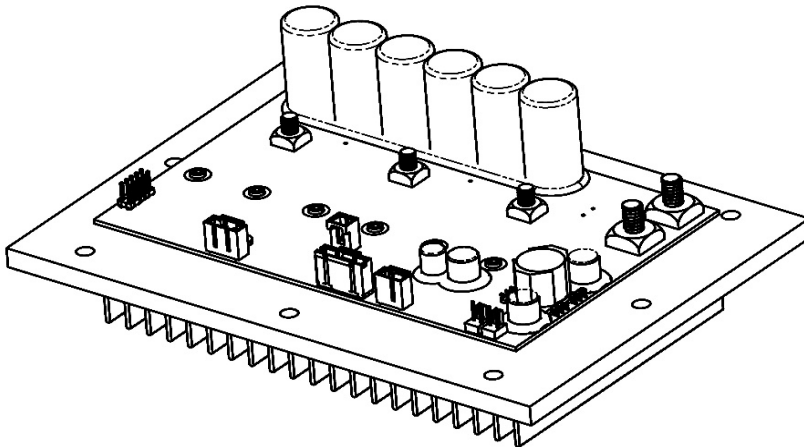


Controller Configurations

Custom controllers and configurations available



025F0200
025F0348



025F0218

SIERRA02-0716Y3



Cooling Capacity (12V) - 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	762 (223)	1425 (417)	1683 (493)	1987 (582)	2407 (705)	2683 (786)	3411 (999)						
2300	1137 (333)	1962 (575)	2332 (683)	2769 (811)	3344 (979)	3705 (1085)	4619 (1353)						
2800	1432 (419)	2419 (709)	2903 (850)	3474 (1017)	4204 (1231)	4650 (1362)	5750 (1684)						
3200	1622 (475)	2741 (803)	3315 (971)	3994 (1170)	4848 (1420)	5363 (1571)	6613 (1937)						

Power Consumption (12V) - ARI HBP - R134a / R513A Watt Current (12V) - 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	214	282	329	369	387	385	348	17.84	23.49	27.45	30.74	32.29	32.08	29.01
2300	299	345	389	429	452	454	428	24.88	28.76	32.39	35.71	37.67	37.79	35.68
2800	381	410	451	493	523	529	517	31.78	34.16	37.59	41.08	43.57	44.10	43.08
3200	447	464	504	549	585	596	595	37.25	38.63	42.00	45.72	48.74	49.64	49.59

Efficiency (12V) - 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	3.56 (1.04)	5.06 (1.48)	5.11 (1.50)	5.39 (1.58)	6.21 (1.82)	6.97 (2.04)	9.80 (2.87)						
2300	3.81 (1.11)	5.68 (1.66)	6.00 (1.76)	6.46 (1.89)	7.40 (2.17)	8.17 (2.39)	10.79 (3.16)						
2800	3.75 (1.10)	5.90 (1.73)	6.44 (1.88)	7.05 (2.06)	8.04 (2.35)	8.79 (2.57)	11.12 (3.26)						
3200	3.63 (1.06)	5.91 (1.73)	6.58 (1.93)	7.28 (2.13)	8.29 (2.43)	9.00 (2.64)	11.11 (3.25)						

* 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 - 12V ARI HBP - R134a / R513A

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.033153E+04	-1.698335E+03	-1.415279E+02	-1.483158E+02
C2	2.128011E+00	4.406400E-01	3.672000E-02	2.038798E-02
C3	-2.210105E-04	-2.829929E-05	-2.358274E-06	-2.060251E-06
C4	2.310411E-08	1.690196E-09	1.408497E-10	1.821543E-10
C5	1.857528E+02	1.214128E+01	1.011774E+00	9.347110E-01
C6	-5.239591E-01	6.775406E-01	5.646171E-02	5.487287E-03
C7	1.181775E-02	-2.138803E-03	-1.782336E-04	8.662477E-05
C8	2.335838E+02	2.695180E+01	2.245983E+00	3.473073E+00
C9	-1.848048E+00	-9.211275E-02	-7.676063E-03	-2.799644E-02
C10	4.468548E-03	-1.315931E-04	-1.096609E-05	7.172634E-05
C11	1.106560E-03	1.418126E-05	1.181771E-06	1.045410E-05
C12	2.403155E-08	4.588341E-09	3.823617E-10	3.082013E-10
C13	-1.470773E-07	1.622297E-06	1.351914E-07	1.900305E-08
C14	-5.686612E-06	-4.921107E-07	-4.100923E-08	-5.285688E-08
C15	-3.199045E-02	3.021184E-03	2.517653E-04	-1.996686E-04
C16	-7.536697E-03	-5.182211E-03	-4.318509E-04	-5.578567E-05
C17	-3.254255E+00	-4.667353E-01	-3.889461E-02	-2.101449E-02
C18	-3.019147E-06	-2.722300E-07	-2.268583E-08	-4.133016E-08
C19	2.291952E-04	-1.668149E-04	-1.390124E-05	9.582807E-07
C20	-7.401176E-07	1.247966E-07	1.039972E-08	-2.238540E-09
C21	4.433078E-05	2.394167E-05	1.995139E-06	3.076486E-07
C22	-2.579103E-03	-5.144014E-03	-4.286678E-04	-8.081081E-05
C23	1.423428E-02	3.390527E-03	2.825439E-04	1.030777E-04

Performance Equation

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

$X_1 = \text{RPM}$
 $X_2 = E_t \text{ (°F)}$
 $X_3 = C_t \text{ (°F)}$

SIERRA02-0716Y3



Cooling Capacity (24V) - ARI HBP - R134a / R513A BTU/hr (Watt)

RPM	Evaporator Temperature											
	-10°F (-23°C)	10°F	20°F	30°F	40°F	45°F	55°F	-1°C	4°C	7°C	13°C	
3200	1622 (475)	2741 (803)	3315 (971)	3994 (1170)	4848 (1420)	5363 (1571)	6613 (1937)	(1170)	4848 (1420)	5363 (1571)	6613 (1937)	
4000	1919 (562)	3302 (967)	4059 (1189)	4954 (1451)	6057 (1774)	6710 (1965)	8260 (2419)	(1451)	6057 (1774)	6710 (1965)	8260 (2419)	
4800	2164 (634)	3814 (1117)	4754 (1392)	5866 (1718)	7221 (2115)	8012 (2346)	9863 (2889)	(1718)	7221 (2115)	8012 (2346)	9863 (2889)	
5600	2427 (711)	4346 (1273)	5472 (1603)	6803 (1992)	8410 (2463)	9340 (2735)	11494 (3366)	(1992)	8410 (2463)	9340 (2735)	11494 (3366)	

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
3200	453	470	511	556	593	604	603	18.88	19.57	21.28	23.17	24.69	25.15	25.13
4000	588	586	629	683	736	757	783	24.49	24.43	26.21	28.46	30.65	31.56	32.64
4800	729	718	766	833	906	941	998	30.37	29.91	31.93	34.73	37.76	39.20	41.57
5600	882	869	928	1012	1109	1159	1251	36.74	36.23	38.67	42.18	46.23	48.28	52.12

Efficiency (24V) - ARI HBP - R134a / R513A BTU/hr/W (W/W)

RPM	Evaporator Temperature											
	-10°F (-23°C)	10°F	20°F	30°F	40°F	45°F	55°F	-1°C	4°C	7°C	13°C	
3200	3.58 (1.05)	5.83 (1.71)	6.49 (1.90)	7.18 (2.10)	8.18 (2.40)	8.88 (2.60)	10.97 (3.21)	(2.10)	8.18 (2.40)	8.88 (2.60)	10.97 (3.21)	
4000	3.27 (0.96)	5.63 (1.65)	6.45 (1.89)	7.25 (2.12)	8.23 (2.41)	8.86 (2.59)	10.54 (3.09)	(2.12)	8.23 (2.41)	8.86 (2.59)	10.54 (3.09)	
4800	2.97 (0.87)	5.31 (1.56)	6.20 (1.82)	7.04 (2.06)	7.97 (2.33)	8.52 (2.49)	9.89 (2.90)	(2.06)	7.97 (2.33)	8.52 (2.49)	9.89 (2.90)	
5600	2.75 (0.81)	5.00 (1.46)	5.90 (1.73)	6.72 (1.97)	7.58 (2.22)	8.06 (2.36)	9.19 (2.69)	(1.97)	7.58 (2.22)	8.06 (2.36)	9.19 (2.69)	

* 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 - 24V ARI HBP - R134a / R513A

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-1.033153E+04	-1.721040E+03	-7.171001E+01	-1.483158E+02
C2	2.128011E+00	4.465310E-01	1.860546E-02	2.038798E-02
C3	-2.210105E-04	-2.867763E-05	-1.194901E-06	-2.060251E-06
C4	2.310411E-08	1.712792E-09	7.136635E-11	1.821543E-10
C5	1.857528E+02	1.230360E+01	5.126501E-01	9.347110E-01
C6	-5.239591E-01	6.865987E-01	2.860828E-02	5.487287E-03
C7	1.181775E-02	-2.167397E-03	-9.030823E-05	8.662477E-05
C8	2.335838E+02	2.731212E+01	1.138005E+00	3.473073E+00
C9	-1.848048E+00	-9.334422E-02	-3.889343E-03	-2.799644E-02
C10	4.468548E-03	-1.333524E-04	-5.556351E-06	7.172634E-05
C11	1.106560E-03	1.437085E-05	5.987853E-07	1.045410E-05
C12	2.403155E-08	4.649683E-09	1.937368E-10	3.082013E-10
C13	-1.470773E-07	1.643986E-06	6.849942E-08	1.900305E-08
C14	-5.686612E-06	-4.986898E-07	-2.077874E-08	-5.285688E-08
C15	-3.199045E-02	3.061574E-03	1.275656E-04	-1.996686E-04
C16	-7.536697E-03	-5.251493E-03	-2.188122E-04	-5.578567E-05
C17	-3.254255E+00	-4.729751E-01	-1.970730E-02	-2.101449E-02
C18	-3.019147E-06	-2.758695E-07	-1.149456E-08	-4.133016E-08
C19	2.291952E-04	-1.690451E-04	-7.043544E-06	9.582807E-07
C20	-7.401176E-07	1.264651E-07	5.269377E-09	-2.238540E-09
C21	4.433078E-05	2.426175E-05	1.010906E-06	3.076486E-07
C22	-2.579103E-03	-5.212785E-03	-2.171994E-04	-8.081081E-05
C23	1.423428E-02	3.435855E-03	1.431606E-04	1.030777E-04

Performance Equation

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

$X_1 = \text{RPM}$
 $X_2 = E_t \text{ (°F)}$
 $X_3 = C_t \text{ (°F)}$

SIERRA02-0716Y3



Cooling Capacity (12V) - 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	716 (210)	1338 (392)	1580 (463)	1865 (546)	2260 (662)	2519 (738)	3202 (938)						
2300	1067 (313)	1841 (539)	2189 (641)	2600 (761)	3139 (919)	3478 (1019)	4336 (1270)						
2800	1344 (394)	2271 (665)	2725 (798)	3261 (955)	3946 (1156)	4365 (1278)	5398 (1581)						
3200	1523 (446)	2573 (754)	3112 (911)	3749 (1098)	4551 (1333)	5034 (1474)	6208 (1818)						

Power Consumption (12V) - ARI HBP - R1234yf Watt Current (12V) - 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	224	295	344	386	405	403	364	18.65	24.56	28.70	32.14	33.76	33.54	30.34
2300	312	361	406	448	473	474	448	26.02	30.08	33.87	37.35	39.39	39.52	37.32
2800	399	429	472	515	547	553	541	33.23	35.72	39.31	42.96	45.56	46.12	45.05
3200	468	485	527	574	612	623	622	38.96	40.40	43.92	47.81	50.97	51.92	51.86

Efficiency (12V) - 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	3.20 (0.94)	4.54 (1.33)	4.59 (1.34)	4.84 (1.42)	5.58 (1.63)	6.26 (1.83)	8.79 (2.58)						
2300	3.42 (1.00)	5.10 (1.49)	5.39 (1.58)	5.80 (1.70)	6.64 (1.94)	7.33 (2.15)	9.68 (2.84)						
2800	3.37 (0.99)	5.30 (1.55)	5.78 (1.69)	6.33 (1.85)	7.22 (2.11)	7.89 (2.31)	9.99 (2.92)						
3200	3.26 (0.95)	5.31 (1.55)	5.91 (1.73)	6.53 (1.91)	7.44 (2.18)	8.08 (2.37)	9.98 (2.92)						

* 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 - 12V ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-9.698748E+03	-1.776008E+03	-1.480007E+02	-1.802280E+02
C2	1.997675E+00	4.607927E-01	3.839939E-02	2.477472E-02
C3	-2.074741E-04	-2.959356E-05	-2.466130E-06	-2.503542E-06
C4	2.168904E-08	1.767497E-09	1.472914E-10	2.213472E-10
C5	1.743759E+02	1.269657E+01	1.058047E+00	1.135827E+00
C6	-4.918678E-01	7.085279E-01	5.904399E-02	6.667950E-03
C7	1.109394E-02	-2.236622E-03	-1.863851E-04	1.052633E-04
C8	2.192773E+02	2.818444E+01	2.348703E+00	4.220351E+00
C9	-1.734859E+00	-9.632553E-02	-8.027128E-03	-3.402025E-02
C10	4.194860E-03	-1.376115E-04	-1.146763E-05	8.715923E-05
C11	1.038785E-03	1.482984E-05	1.235820E-06	1.270344E-05
C12	2.255967E-08	4.798189E-09	3.998491E-10	3.745150E-10
C13	-1.380691E-07	1.696493E-06	1.413744E-07	2.309181E-08
C14	-5.338319E-06	-5.146174E-07	-4.288479E-08	-6.422975E-08
C15	-3.003110E-02	3.159358E-03	2.632798E-04	-2.426299E-04
C16	-7.075090E-03	-5.419220E-03	-4.516016E-04	-6.778870E-05
C17	-3.054939E+00	-4.880814E-01	-4.067345E-02	-2.553604E-02
C18	-2.834231E-06	-2.846804E-07	-2.372337E-08	-5.022290E-08
C19	2.151575E-04	-1.744442E-04	-1.453701E-05	1.164468E-06
C20	-6.947869E-07	1.305042E-07	1.087535E-08	-2.720192E-09
C21	4.161561E-05	2.503664E-05	2.086387E-06	3.738433E-07
C22	-2.421138E-03	-5.379275E-03	-4.482730E-04	-9.819834E-05
C23	1.336246E-02	3.545593E-03	2.954661E-04	1.252562E-04

Performance Equation

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

$X_1 = \text{RPM}$
 $X_2 = E_t \text{ (°F)}$
 $X_3 = C_t \text{ (°F)}$

SIERRA02-0716Y3



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)						
3200	1523 (446)	2573 (754)	3112 (911)	3749 (1098)	4551 (1333)	5034 (1474)	6208 (1818)						
4000	1802 (528)	3100 (908)	3810 (1116)	4650 (1362)	5686 (1665)	6299 (1845)	7754 (2271)						
4800	2031 (595)	3580 (1048)	4463 (1307)	5507 (1613)	6779 (1985)	7521 (2203)	9259 (2712)						
5600	2278 (667)	4080 (1195)	5137 (1504)	6386 (1870)	7895 (2312)	8768 (2568)	10790 (3160)						

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
3200	474	491	534	581	620	631	631	19.74	20.47	22.25	24.23	25.82	26.30	26.28
4000	615	613	658	714	769	792	819	25.61	25.55	27.41	29.76	32.06	33.00	34.14
4800	762	751	801	872	948	984	1043	31.76	31.28	33.39	36.32	39.49	40.99	43.47
5600	922	909	970	1059	1160	1212	1308	38.42	37.88	40.43	44.11	48.34	50.49	54.50

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)						
3200	3.21 (0.94)	5.24 (1.53)	5.83 (1.71)	6.45 (1.89)	7.34 (2.15)	7.97 (2.33)	9.84 (2.88)						
4000	2.93 (0.86)	5.06 (1.48)	5.79 (1.70)	6.51 (1.91)	7.39 (2.16)	7.95 (2.33)	9.46 (2.77)						
4800	2.66 (0.78)	4.77 (1.40)	5.57 (1.63)	6.32 (1.85)	7.15 (2.09)	7.65 (2.24)	8.88 (2.60)						
5600	2.47 (0.72)	4.49 (1.31)	5.29 (1.55)	6.03 (1.77)	6.80 (1.99)	7.24 (2.12)	8.25 (2.42)						

* 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

Performance Coefficients - 24V ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-9.698748E+03	-1.799752E+03	-7.498967E+01	-1.802280E+02
C2	1.997675E+00	4.669531E-01	1.945638E-02	2.477472E-02
C3	-2.074741E-04	-2.998920E-05	-1.249550E-06	-2.503542E-06
C4	2.168904E-08	1.791127E-09	7.463029E-11	2.213472E-10
C5	1.743759E+02	1.286631E+01	5.360962E-01	1.135827E+00
C6	-4.918678E-01	7.180004E-01	2.991668E-02	6.667950E-03
C7	1.109394E-02	-2.266524E-03	-9.443848E-05	1.052633E-04
C8	2.192773E+02	2.856124E+01	1.190052E+00	4.220351E+00
C9	-1.734859E+00	-9.761333E-02	-4.067222E-03	-3.402025E-02
C10	4.194860E-03	-1.394513E-04	-5.810471E-06	8.715923E-05
C11	1.038785E-03	1.502810E-05	6.261708E-07	1.270344E-05
C12	2.255967E-08	4.862337E-09	2.025974E-10	3.745150E-10
C13	-1.380691E-07	1.719174E-06	7.163225E-08	2.309181E-08
C14	-5.338319E-06	-5.214975E-07	-2.172906E-08	-6.422975E-08
C15	-3.003110E-02	3.201596E-03	1.333998E-04	-2.426299E-04
C16	-7.075090E-03	-5.491670E-03	-2.288196E-04	-6.778870E-05
C17	-3.054939E+00	-4.946067E-01	-2.060861E-02	-2.553604E-02
C18	-2.834231E-06	-2.884864E-07	-1.202027E-08	-5.022290E-08
C19	2.151575E-04	-1.767763E-04	-7.365681E-06	1.164468E-06
C20	-6.947869E-07	1.322489E-07	5.510372E-09	-2.720192E-09
C21	4.161561E-05	2.537136E-05	1.057140E-06	3.738433E-07
C22	-2.421138E-03	-5.451192E-03	-2.271330E-04	-9.819834E-05
C23	1.336246E-02	3.592994E-03	1.497081E-04	1.252562E-04

Performance Equation

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

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