

**SIERRA03-0434Y3**  
**R134a / R513A / R1234yf**  
**24/48V DC**  
**VARIABLE SPEED**



**Brushless DC Variable Speed Compressor Technical Data Sheet**

**General Information**

Compressor Part Number	SIERRA00150	3/8" ID Suction - 5/16" ID Discharge
Compressor Drawing	DCMX33-001	#10-32 Threaded Terminal Connections
Compressor Part Number with Fittings	SIERRA00170	#10 MIO Suction - #8 MIO Discharge
Compressor Drawing with Fittings	DCMX27-001	#10-32 Threaded Terminal Connections
Compressor Part Number (non-UL, hi-temp)	SIERRA00171	3/8" ID Suction - 5/16" ID Discharge
Compressor Drawing	DCMX33-001	#10-32 Threaded Terminal Connections
Voltage Range:	19-60 VDC	
Controller Options (24/48V)	025F0149, 025F0349, 025F0129, 025F0350	
Controller Options (48V)	025F0158, 025F0152	
Wiring Diagram Drawing	DEM0010	

**Application Information**

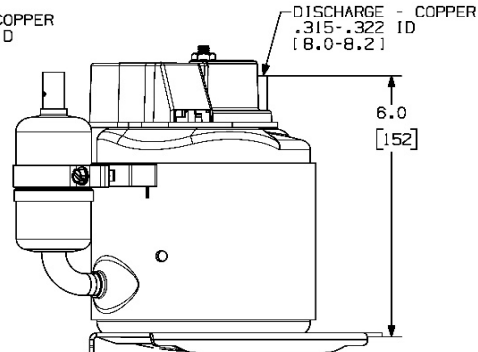
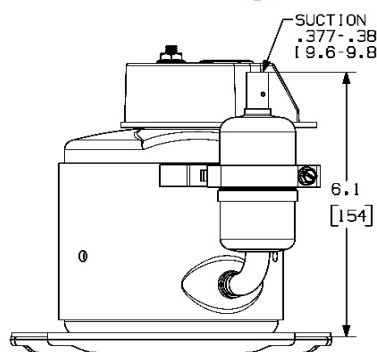
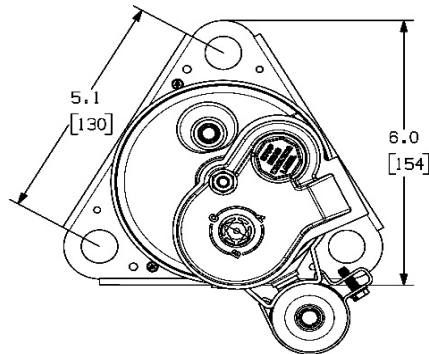
Application	HBP, A/C
Refrigerant	R134a, R513A, R1234yf
Evaporator Temperature Range	-23.3°C to 12.8°C (-10°F to 55°F)
Condenser Temperature Range	26.7°C to 65.6°C (80°F to 150°F)
Maximum Discharge Temperature	130 °C (265 °F)
Maximum Compression Ratio	8:1
Minimum Airflow Over Compressor	425 cfm @ 6" from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

**Design**

Displacement	7.1 cm <sup>3</sup> (0.434 in <sup>3</sup> )
Oil Quantity	290 cc
Oil Type	PVE 68cSt
Weight	4.8 kg / 10.5 lb
Weight with Fittings	4.9 kg / 10.8 lb



**Compressor Dimensions**



**Packaging Options**

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

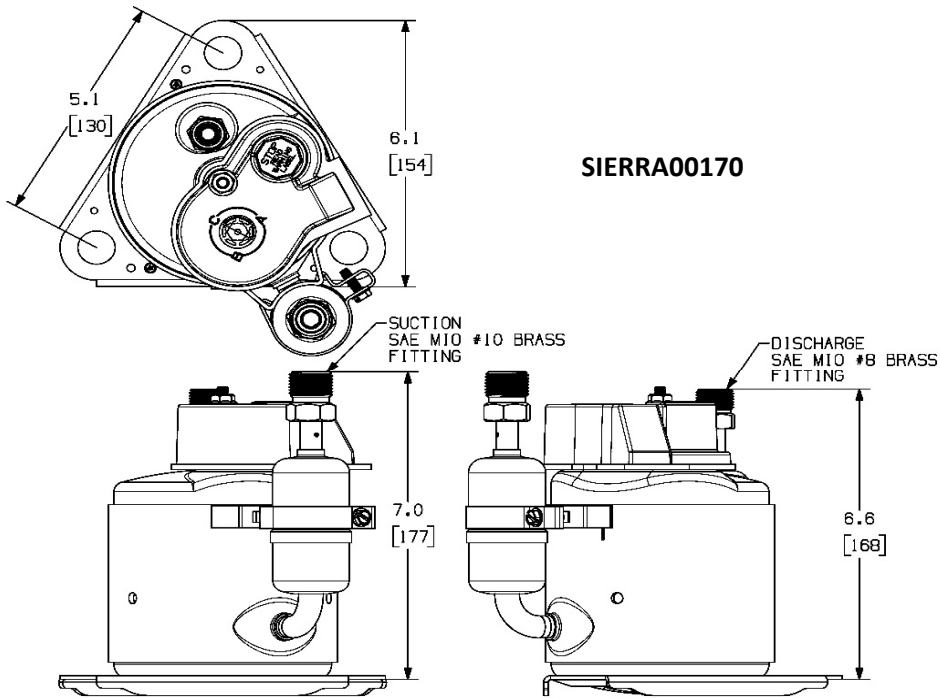
**SIERRA00150**  
**SIERRA00171**

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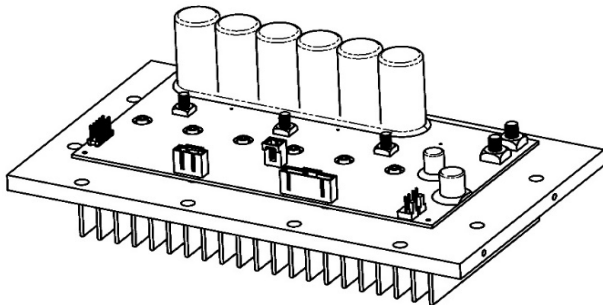


## Compressor Dimensions

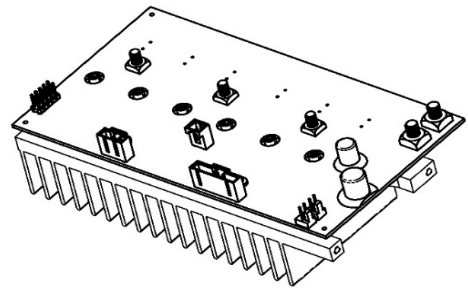


## Controller Configurations

Custom controllers and configurations available



025F0149,  
025F0349,  
& 025F0158



025F0129,  
025F0350,

# SIERRA03-0434Y3



## 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	462 (135)	864 (253)	1020 (299)	1204 (353)	1459 (427)	1626 (476)	2068 (606)							
2400	728 (213)	1248 (366)	1486 (435)	1767 (518)	2134 (625)	2364 (692)	2940 (861)							
3000	928 (272)	1567 (459)	1887 (553)	2266 (664)	2746 (804)	3037 (889)	3749 (1098)							
3600	1080 (316)	1838 (538)	2241 (656)	2718 (796)	3311 (970)	3665 (1073)	4513 (1322)							

## 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	121	160	186	209	219	218	197	5.05	6.65	7.77	8.70	9.14	9.08	8.21
2400	179	203	227	250	264	265	252	7.44	8.45	9.46	10.41	10.99	11.04	10.50
3000	235	247	270	295	313	318	314	9.77	10.30	11.26	12.28	13.05	13.25	13.10
3600	291	294	317	345	369	378	385	12.10	12.26	13.22	14.36	15.39	15.77	16.05

## 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	3.81 (1.12)	5.41 (1.59)	5.47 (1.60)	5.77 (1.69)	6.65 (1.95)	7.46 (2.18)	10.49 (3.07)							
2400	4.08 (1.19)	6.16 (1.80)	6.55 (1.92)	7.08 (2.07)	8.10 (2.37)	8.92 (2.61)	11.66 (3.41)							
3000	3.96 (1.16)	6.34 (1.86)	6.99 (2.05)	7.69 (2.25)	8.77 (2.57)	9.55 (2.80)	11.93 (3.49)							
3600	3.72 (1.09)	6.25 (1.83)	7.06 (2.07)	7.88 (2.31)	8.96 (2.62)	9.69 (2.84)	11.72 (3.43)							

\* 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	-6.262409E+03	-9.616681E+02	-4.006950E+01	-8.990093E+01
C2	1.289884E+00	2.495088E-01	1.039620E-02	1.235807E-02
C3	-1.339645E-04	-1.602424E-05	-6.676766E-07	-1.248812E-06
C4	1.400445E-08	9.570594E-10	3.987748E-11	1.104119E-10
C5	1.125932E+02	6.874901E+00	2.864542E-01	5.665706E-01
C6	-3.175953E-01	3.836517E-01	1.598549E-02	3.326093E-03
C7	7.163275E-03	-1.211080E-03	-5.046165E-05	5.250719E-05
C8	1.415857E+02	1.526123E+01	6.358847E-01	2.105187E+00
C9	-1.120186E+00	-5.215808E-02	-2.173253E-03	-1.696991E-02
C10	2.708589E-03	-7.451352E-05	-3.104730E-06	4.347658E-05
C11	6.707360E-04	8.030018E-06	3.345841E-07	6.336705E-06
C12	1.456661E-08	2.598110E-09	1.082546E-10	1.868148E-10
C13	-8.915019E-08	9.186125E-07	3.827552E-08	1.151861E-08
C14	-3.446913E-06	-2.786536E-07	-1.161057E-08	-3.203895E-08
C15	-1.939086E-02	1.710720E-03	7.128001E-05	-1.210281E-04
C16	-4.568333E-03	-2.934384E-03	-1.222660E-04	-3.381422E-05
C17	-1.972551E+00	-2.642850E-01	-1.101187E-02	-1.273783E-02
C18	-1.830042E-06	-1.541480E-07	-6.422832E-09	-2.505208E-08
C19	1.389256E-04	-9.445754E-05	-3.935731E-06	5.808573E-07
C20	-4.486187E-07	7.066505E-08	2.944377E-09	-1.356880E-09
C21	2.687089E-05	1.355677E-05	5.648654E-07	1.864797E-07
C22	-1.563311E-03	-2.912755E-03	-1.213648E-04	-4.898309E-05
C23	8.628039E-03	1.919858E-03	7.999407E-05	6.248005E-05

### Performance Equation

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

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

# SIERRA03-0434Y3



## 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)
3600	1080	(316)	1838	(538)	2241	(656)	2718	(796)	3311	(970)	3665	(1073)	4513	(1322)
4500	1257	(368)	2196	(643)	2724	(798)	3349	(981)	4113	(1205)	4561	(1336)	5615	(1644)
5500	1449	(424)	2592	(759)	3260	(955)	4050	(1186)	5006	(1466)	5558	(1628)	6841	(2004)
6500	1717	(503)	3066	(898)	3876	(1135)	4833	(1416)	5981	(1752)	6639	(1944)	8152	(2388)

## 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
3600	304	308	332	361	387	396	403	6.33	6.42	6.92	7.52	8.05	8.25	8.40
4500	395	390	417	453	491	508	534	8.22	8.12	8.68	9.43	10.22	10.58	11.12
5500	504	497	530	578	633	661	712	10.50	10.35	11.04	12.04	13.18	13.76	14.83
6500	628	626	670	734	809	849	929	13.09	13.04	13.96	15.28	16.86	17.70	19.36

## 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)
3600	3.55	(1.04)	5.97	(1.75)	6.75	(1.98)	7.53	(2.21)	8.56	(2.51)	9.25	(2.71)	11.20	(3.28)
4500	3.18	(0.93)	5.63	(1.65)	6.54	(1.92)	7.40	(2.17)	8.39	(2.46)	8.98	(2.63)	10.52	(3.08)
5500	2.87	(0.84)	5.22	(1.53)	6.15	(1.80)	7.01	(2.05)	7.91	(2.32)	8.41	(2.46)	9.61	(2.81)
6500	2.73	(0.80)	4.90	(1.43)	5.79	(1.69)	6.59	(1.93)	7.39	(2.16)	7.82	(2.29)	8.77	(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 (48V) - ARI HBP - R134a / R513A

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-6.262409E+03	-1.006527E+03	-2.096931E+01	-8.990093E+01
C2	1.289884E+00	2.611476E-01	5.440575E-03	1.235807E-02
C3	-1.339645E-04	-1.677172E-05	-3.494109E-07	-1.248812E-06
C4	1.400445E-08	1.001703E-09	2.086882E-11	1.104119E-10
C5	1.125932E+02	7.195594E+00	1.499082E-01	5.665706E-01
C6	-3.175953E-01	4.015479E-01	8.365582E-03	3.326093E-03
C7	7.163275E-03	-1.267573E-03	-2.640777E-05	5.250719E-05
C8	1.415857E+02	1.597312E+01	3.327734E-01	2.105187E+00
C9	-1.120186E+00	-5.459110E-02	-1.137315E-03	-1.696991E-02
C10	2.708589E-03	-7.798935E-05	-1.624778E-06	4.347658E-05
C11	6.707360E-04	8.404594E-06	1.750957E-07	6.336705E-06
C12	1.456661E-08	2.719304E-09	5.665216E-11	1.868148E-10
C13	-8.915019E-08	9.614630E-07	2.003048E-08	1.151861E-08
C14	-3.446913E-06	-2.916520E-07	-6.076083E-09	-3.203895E-08
C15	-1.939086E-02	1.790520E-03	3.730250E-05	-1.210281E-04
C16	-4.568333E-03	-3.071264E-03	-6.398467E-05	-3.381422E-05
C17	-1.972551E+00	-2.766131E-01	-5.762772E-03	-1.273783E-02
C18	-1.830042E-06	-1.613385E-07	-3.361219E-09	-2.505208E-08
C19	1.389256E-04	-9.886370E-05	-2.059660E-06	5.808573E-07
C20	-4.486187E-07	7.396136E-08	1.540862E-09	-1.356880E-09
C21	2.687089E-05	1.418915E-05	2.956074E-07	1.864797E-07
C22	-1.563311E-03	-3.048626E-03	-6.351305E-05	-4.898309E-05
C23	8.628039E-03	2.009413E-03	4.186278E-05	6.248005E-05

### Performance Equation

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

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

# SIERRA03-0434Y3



## 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	434 (127)	811 (238)	958 (281)	1131 (331)	1370 (401)	1527 (447)	1941 (568)					
2400	684 (200)	1172 (343)	1395 (409)	1659 (486)	2004 (587)	2219 (650)	2760 (808)					
3000	871 (255)	1471 (431)	1772 (519)	2127 (623)	2578 (755)	2851 (835)	3520 (1031)					
3600	1014 (297)	1725 (505)	2104 (616)	2552 (747)	3108 (910)	3440 (1008)	4237 (1241)					

## 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	127	167	195	218	229	228	206	5.28	6.95	8.13	9.10	9.56	9.50	8.59
2400	187	212	237	261	276	277	264	7.78	8.83	9.89	10.88	11.49	11.55	10.98
3000	245	258	283	308	328	333	329	10.22	10.77	11.77	12.84	13.65	13.86	13.70
3600	304	308	332	361	386	396	403	12.66	12.82	13.82	15.02	16.10	16.49	16.78

## 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	3.42 (1.00)	4.86 (1.42)	4.91 (1.44)	5.18 (1.52)	5.97 (1.75)	6.70 (1.96)	9.41 (2.76)					
2400	3.66 (1.07)	5.53 (1.62)	5.88 (1.72)	6.35 (1.86)	7.27 (2.13)	8.01 (2.34)	10.47 (3.07)					
3000	3.55 (1.04)	5.69 (1.67)	6.27 (1.84)	6.90 (2.02)	7.87 (2.30)	8.57 (2.51)	10.71 (3.14)					
3600	3.34 (0.98)	5.61 (1.64)	6.34 (1.86)	7.08 (2.07)	8.05 (2.36)	8.69 (2.55)	10.52 (3.08)					

\* 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	-5.878850E+03	-1.005650E+03	-4.190208E+01	-1.092443E+02
C2	1.210881E+00	2.609201E-01	1.087167E-02	1.501708E-02
C3	-1.257594E-04	-1.675711E-05	-6.982128E-07	-1.517510E-06
C4	1.314671E-08	1.000831E-09	4.170127E-11	1.341686E-10
C5	1.056971E+02	7.189325E+00	2.995552E-01	6.884759E-01
C6	-2.981433E-01	4.011981E-01	1.671659E-02	4.041746E-03
C7	6.724540E-03	-1.266469E-03	-5.276952E-05	6.380482E-05
C8	1.329139E+02	1.595921E+01	6.649669E-01	2.558146E+00
C9	-1.051577E+00	-5.454354E-02	-2.272647E-03	-2.062121E-02
C10	2.542694E-03	-7.792140E-05	-3.246725E-06	5.283115E-05
C11	6.296549E-04	8.397272E-06	3.498863E-07	7.700132E-06
C12	1.367443E-08	2.716935E-09	1.132056E-10	2.270105E-10
C13	-8.368993E-08	9.606253E-07	4.002605E-08	1.399699E-08
C14	-3.235797E-06	-2.913979E-07	-1.214158E-08	-3.893256E-08
C15	-1.820321E-02	1.788960E-03	7.454000E-05	-1.470690E-04
C16	-4.288532E-03	-3.068588E-03	-1.278578E-04	-4.108980E-05
C17	-1.851737E+00	-2.763721E-01	-1.151550E-02	-1.547855E-02
C18	-1.717955E-06	-1.611979E-07	-6.716581E-09	-3.044237E-08
C19	1.304167E-04	-9.877756E-05	-4.115732E-06	7.058365E-07
C20	-4.211418E-07	7.389692E-08	3.079039E-09	-1.648831E-09
C21	2.522511E-05	1.417679E-05	5.906996E-07	2.266033E-07
C22	-1.467562E-03	-3.045970E-03	-1.269154E-04	-5.952246E-05
C23	8.099590E-03	2.007663E-03	8.365261E-05	7.592346E-05

### Performance Equation

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

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

# SIERRA03-0434Y3



## 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)					
3600	1014 (297)	1725 (505)	2104 (616)	2552 (747)	3108 (910)	3440 (1008)	4237 (1241)					
4500	1180 (346)	2062 (604)	2558 (749)	3144 (921)	3861 (1131)	4282 (1254)	5271 (1544)					
5500	1360 (398)	2433 (713)	3061 (896)	3802 (1114)	4699 (1376)	5218 (1528)	6422 (1881)					
6500	1612 (472)	2879 (843)	3639 (1066)	4537 (1329)	5614 (1644)	6232 (1825)	7653 (2241)					

## 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
3600	318	322	347	377	404	414	422	6.62	6.71	7.23	7.86	8.42	8.63	8.78
4500	413	408	436	473	513	531	558	8.60	8.49	9.07	9.86	10.69	11.06	11.63
5500	527	519	554	604	662	691	744	10.98	10.82	11.55	12.59	13.79	14.39	15.50
6500	657	655	701	767	846	888	972	13.69	13.64	14.59	15.98	17.63	18.51	20.24

## 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)					
3600	3.19 (0.93)	5.36 (1.57)	6.06 (1.77)	6.76 (1.98)	7.69 (2.25)	8.31 (2.43)	10.05 (2.94)					
4500	2.86 (0.84)	5.06 (1.48)	5.87 (1.72)	6.64 (1.94)	7.53 (2.20)	8.06 (2.36)	9.44 (2.76)					
5500	2.58 (0.76)	4.68 (1.37)	5.52 (1.62)	6.29 (1.84)	7.10 (2.08)	7.55 (2.21)	8.63 (2.53)					
6500	2.45 (0.72)	4.40 (1.29)	5.19 (1.52)	5.92 (1.73)	6.63 (1.94)	7.02 (2.05)	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 (48V) - ARI HBP - R1234yf

Coefficient	Capacity (BTU/Hr)	Power (Watts)	Current (Amperes)	Mass Flow (Lbs/Hr)
C1	-5.878850E+03	-1.052561E+03	-2.192835E+01	-1.092443E+02
C2	1.210881E+00	2.730912E-01	5.689400E-03	1.501708E-02
C3	-1.257594E-04	-1.753878E-05	-3.653912E-07	-1.517510E-06
C4	1.314671E-08	1.047516E-09	2.182326E-11	1.341686E-10
C5	1.056971E+02	7.524685E+00	1.567643E-01	6.884759E-01
C6	-2.981433E-01	4.199127E-01	8.748182E-03	4.041746E-03
C7	6.724540E-03	-1.325545E-03	-2.761553E-05	6.380482E-05
C8	1.329139E+02	1.670365E+01	3.479928E-01	2.558146E+00
C9	-1.051577E+00	-5.708783E-02	-1.189330E-03	-2.062121E-02
C10	2.542694E-03	-8.155620E-05	-1.699087E-06	5.283115E-05
C11	6.296549E-04	8.788979E-06	1.831037E-07	7.700132E-06
C12	1.367443E-08	2.843671E-09	5.924315E-11	2.270105E-10
C13	-8.368993E-08	1.005436E-06	2.094657E-08	1.399699E-08
C14	-3.235797E-06	-3.049907E-07	-6.353973E-09	-3.893256E-08
C15	-1.820321E-02	1.872410E-03	3.900853E-05	-1.470690E-04
C16	-4.288532E-03	-3.211729E-03	-6.691101E-05	-4.108980E-05
C17	-1.851737E+00	-2.892640E-01	-6.026333E-03	-1.547855E-02
C18	-1.717955E-06	-1.687173E-07	-3.514945E-09	-3.044237E-08
C19	1.304167E-04	-1.033852E-04	-2.153859E-06	7.058365E-07
C20	-4.211418E-07	7.734399E-08	1.611333E-09	-1.648831E-09
C21	2.522511E-05	1.483809E-05	3.091270E-07	2.266033E-07
C22	-1.467562E-03	-3.188055E-03	-6.641782E-05	-5.952246E-05
C23	8.099590E-03	2.101314E-03	4.377737E-05	7.592346E-05

### Performance Equation

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

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