

Model: AE2413Y-FZ1A

Product Description

Type:	Reciprocating Compressors
Application:	LBP - Low Back Pressure
Refrigerant:	R-134a
Voltage/Frequency:	220-240V ~ 50Hz
Version:	N/A



Product Specifications

Performance

		Refrigeration Capacity			Input Power	(E) Efficiency			EVAP		AMBIENT	RETURN	LIQUID
Condition	Test Voltage	(R) Btu/h	(R) kcal/h	(R) W	(I) W	(E) Btu/Wh	(E) kcal/Wh	W/W	TEMP	Condition	TEMP	GAS	TEMP
ASHRAE (R-134a)	220V ~ 50HZ	1100	277	322	265	4.15	1.05	1.22	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)
ASHRAE (R-513A)	220V ~ 50HZ	1297	327	380	310	4.18	1.05	1.23	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)

General

Evaporating Temp. Range:	-40°C to -10°C (-40°F to 14°F)
Motor Torque:	High Start Torque (HST)
Compressor Cooling:	Fan

Mechanical

Weight:	0
Weight Unit of Measure:	KG
Displacement (cc):	12.01
Oil Type:	Polyolester
Viscosity (cSt):	32
Oil Charge (cc):	387

Electrical

Voltage Range (50 Hz):	198-253
Voltage Range (60 Hz):	
Locked Rotor Amps (LRA):	12
Rated Load Amps (RLA 50 Hz):	1.77
Rated Load Amps (RLA 60 Hz):	0
Max. Continuous Current (MCC in Amps):	0
Motor Resistance (Ohm) - Main:	8.23
Motor Resistance (Ohm) - Start:	13.41
Motor Type:	CSIR
Overload Type:	
Relay Type:	



Performance Data Sheet

AE2413Y-FZ1A

General

Model	AE2413Y-FZ1A	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-513A)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	MotorType	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)								
		80	90	100	110	120	130	140	150
-40	Btu/h	1150	1090	993	871	722	544	340	107
	Watts	250	251	250	246	241	234	224	213
	Amps	1.70	1.71	1.71	1.71	1.69	1.67	1.64	1.60
	Lb/h	14.4	13.8	12.9	11.6	9.92	7.86	5.42	2.61
-35	Btu/h	1190	1130	1040	927	784	614	417	192
	Watts	245	247	248	246	243	237	230	220
	Amps	1.68	1.70	1.70	1.70	1.69	1.68	1.65	1.62
	Lb/h	14.5	14.1	13.4	12.3	10.9	9.01	6.78	4.18
-30	Btu/h	1240	1180	1100	996	861	699	508	291
	Watts	243	248	250	250	249	245	239	231
	Amps	1.67	1.70	1.71	1.71	1.71	1.70	1.68	1.65
	Lb/h	14.7	14.6	14.1	13.2	12.0	10.3	8.32	5.92
-25	Btu/h	1300	1250	1180	1080	952	796	613	403
	Watts	246	252	256	258	258	256	252	246
	Amps	1.68	1.71	1.73	1.74	1.74	1.74	1.73	1.71
	Lb/h	15.2	15.3	15.0	14.3	13.2	11.8	10.0	7.84
-20	Btu/h	1370	1340	1270	1180	1050	907	731	527
	Watts	252	260	266	270	272	271	269	264
	Amps	1.71	1.74	1.77	1.78	1.79	1.79	1.79	1.77
	Lb/h	15.8	16.1	16.0	15.5	14.7	13.5	11.9	9.94
-15	Btu/h	1460	1430	1370	1280	1170	1030	860	664
	Watts	263	272	280	286	289	290	290	287
	Amps	1.75	1.79	1.82	1.84	1.86	1.87	1.87	1.86
	Lb/h	16.5	17.1	17.2	16.9	16.3	15.3	14.0	12.2
-10	Btu/h	1560	1530	1480	1400	1300	1160	1000	812
	Watts	277	288	297	305	310	313	314	313
	Amps	1.81	1.85	1.89	1.92	1.94	1.95	1.96	1.96
	Lb/h	17.5	18.2	18.6	18.5	18.1	17.4	16.2	14.7
-5	Btu/h	1670	1650	1610	1530	1430	1310	1150	970
	Watts	294	308	319	328	335	340	342	343
	Amps	1.88	1.93	1.98	2.01	2.04	2.06	2.07	2.08
	Lb/h	18.6	19.6	20.1	20.3	20.1	19.6	18.7	17.4
0	Btu/h	1790	1780	1740	1670	1580	1460	1310	1140
	Watts	316	331	343	354	363	370	374	376
	Amps	1.97	2.03	2.08	2.12	2.16	2.19	2.21	2.22

	Lb/h	19.9	21.1	21.9	22.3	22.3	22.0	21.3	20.2
5	Btu/h	1920	1910	1880	1820	1740	1620	1480	1310
	Watts	341	357	372	384	395	403	409	413
	Amps	2.09	2.15	2.21	2.26	2.30	2.33	2.36	2.37
	Lb/h	21.4	22.8	23.8	24.5	24.7	24.6	24.1	23.3
10	Btu/h	2060	2060	2030	1980	1900	1800	1660	1500
	Watts	369	387	404	418	430	440	448	454
	Amps	2.21	2.29	2.35	2.40	2.45	2.49	2.53	2.55
	Lb/h	23.1	24.7	26.0	26.8	27.3	27.4	27.2	26.5

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	8.870342E+02	1.206626E+02	1.236614E+00	-2.971433E+00
C2	1.414972E+01	1.886148E+00	9.922786E-03	-7.164695E-02
C3	2.223711E+01	3.274054E+00	1.228153E-02	4.361087E-01
C4	1.981561E-01	7.259767E-02	3.479979E-04	3.483634E-03
C5	1.330472E-01	3.424409E-02	1.296949E-04	4.374684E-03
C6	-1.371298E-01	-1.046618E-02	-3.815660E-05	-1.874187E-03
C7	-9.329693E-04	-8.266672E-05	6.160352E-07	5.644348E-06
C8	-1.078725E-04	-1.496724E-05	1.875571E-07	3.553292E-06
C9	1.907070E-05	8.916234E-07	4.818702E-09	3.211774E-07
C10	1.925506E-07	5.049092E-08	-8.282348E-10	-1.859026E-08

Value = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3

Te = Evaporator Temperature

Tc = Condensing Temperature



Performance Data Sheet

AE2413Y-FZ1A

General

Model	AE2413Y-FZ1A	Unit of Measure	Celsius
Condition	EN12900	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	20°C (68°F) RETURN GAS	MotorType	CSIR

Performance Information

EVAP TEMP (°C)	Condensing Temperature (°C)								
		30	35	40	45	50	55	60	65
-40	Btu/h	416	381	346	313	282	254	231	212
	Watts (Power)	151	152	153	152	151	148	143	137
	Amps	1.47	1.47	1.47	1.47	1.46	1.45	1.43	1.41
	Lb/h	5.39	5.16	4.92	4.67	4.42	4.16	3.88	3.59
-35	Btu/h	603	556	508	460	414	371	330	293
	Watts (Power)	174	177	179	181	181	181	179	177
	Amps	1.52	1.53	1.53	1.53	1.53	1.52	1.52	1.51
	Lb/h	7.81	7.50	7.17	6.84	6.48	6.10	5.70	5.28
-30	Btu/h	839	779	718	656	594	534	476	421
	Watts (Power)	200	204	207	211	213	216	217	218
	Amps	1.58	1.59	1.60	1.61	1.61	1.62	1.62	1.62
	Lb/h	10.9	10.5	10.1	9.73	9.29	8.82	8.32	7.77
-25	Btu/h	1120	1050	974	897	820	743	667	593
	Watts (Power)	229	234	239	244	249	254	259	263
	Amps	1.66	1.67	1.69	1.70	1.72	1.73	1.74	1.76
	Lb/h	14.6	14.2	13.8	13.3	12.8	12.3	11.7	11.1
-23.3	Btu/h	1230	1150	1070	990	907	824	742	661
	Watts (Power)	239	245	251	256	262	268	274	279
	Amps	1.69	1.70	1.72	1.74	1.76	1.78	1.79	1.81
	Lb/h	16.0	15.6	15.2	14.7	14.2	13.7	13.0	12.4
-20	Btu/h	1450	1370	1280	1180	1090	995	901	808
	Watts (Power)	262	269	275	282	290	297	305	313
	Amps	1.76	1.78	1.80	1.82	1.85	1.87	1.90	1.93
	Lb/h	19.0	18.6	18.2	17.7	17.1	16.5	15.9	15.2
-15	Btu/h	1830	1730	1620	1510	1400	1290	1180	1060
	Watts (Power)	303	310	318	328	337	347	358	370
	Amps	1.90	1.92	1.95	1.99	2.02	2.06	2.10	2.14
	Lb/h	24.0	23.6	23.2	22.7	22.1	21.5	20.8	20.1
-10	Btu/h	2240	2130	2010	1880	1750	1620	1490	1360
	Watts (Power)	351	360	370	381	393	406	420	435
	Amps	2.08	2.11	2.15	2.19	2.24	2.29	2.34	2.40
	Lb/h	29.7	29.3	28.9	28.4	27.9	27.2	26.5	25.7

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.868919E+03	4.520209E+02	2.452848E+00	4.247710E+01
C2	1.172959E+02	1.513733E+01	5.959752E-02	1.288136E+00

C3	-1.576815E+01	-3.781854E-01	4.040251E-04	5.739156E-02
C4	7.939500E-01	2.562212E-01	1.301619E-03	9.426690E-03
C5	-3.659895E-01	-4.433700E-02	5.180326E-05	6.181983E-03
C6	-2.581491E-01	4.419579E-02	1.664183E-04	-1.426113E-03
C7	-2.307946E-03	2.147309E-03	1.178381E-05	-1.347419E-05
C8	-1.685505E-03	1.171617E-04	3.380850E-06	8.388107E-05
C9	-3.832509E-03	1.499274E-03	5.046314E-06	-4.272478E-05
C10	1.123239E-03	-6.478740E-05	-3.059857E-07	-3.199856E-06

Value = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3

Te = Evaporator Temperature

Tc = Condensing Temperature



Performance Data Sheet

AE2413Y-FZ1A

General

Model	AE2413Y-FZ1A	Unit of Measure	Fahrenheit
Condition	EN12900	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	20°C (68°F) RETURN GAS	Motor Type	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)								
		80	90	100	110	120	130	140	150
-40	Btu/h	440	401	362	324	289	257	231	210
	Watts	149	152	153	153	151	148	143	137
	Amps	1.47	1.47	1.47	1.47	1.46	1.45	1.43	1.40
	Lb/h	5.55	5.29	5.02	4.75	4.48	4.19	3.88	3.56
-35	Btu/h	542	495	448	402	358	317	280	248
	Watts	162	165	167	168	168	166	163	159
	Amps	1.49	1.50	1.50	1.50	1.50	1.49	1.48	1.46
	Lb/h	6.83	6.53	6.21	5.88	5.54	5.18	4.80	4.39
-30	Btu/h	659	605	551	496	442	391	344	301
	Watts	175	178	181	183	184	184	183	181
	Amps	1.52	1.53	1.54	1.54	1.54	1.53	1.53	1.52
	Lb/h	8.32	7.98	7.62	7.24	6.84	6.41	5.95	5.46
-25	Btu/h	792	730	668	604	541	480	422	368
	Watts	188	193	196	200	202	203	204	204
	Amps	1.55	1.56	1.57	1.58	1.58	1.58	1.58	1.58
	Lb/h	10.0	9.64	9.24	8.82	8.37	7.88	7.36	6.79
-20	Btu/h	939	870	799	727	655	583	514	449
	Watts	203	208	212	217	220	223	226	228
	Amps	1.59	1.60	1.61	1.62	1.63	1.64	1.65	1.65
	Lb/h	11.9	11.5	11.1	10.6	10.1	9.58	9.00	8.37
-15	Btu/h	1100	1020	945	864	782	701	620	543
	Watts	219	224	229	235	240	245	249	253
	Amps	1.63	1.64	1.66	1.67	1.69	1.70	1.71	1.73
	Lb/h	14.0	13.6	13.1	12.6	12.1	11.5	10.9	10.2
-10	Btu/h	1280	1190	1110	1020	923	831	740	651
	Watts	236	242	248	254	261	267	273	280
	Amps	1.68	1.69	1.71	1.73	1.75	1.77	1.79	1.81
	Lb/h	16.3	15.8	15.4	14.9	14.3	13.7	13.0	12.3
-5	Btu/h	1470	1380	1280	1180	1080	975	873	772
	Watts	254	261	268	276	283	291	300	308
	Amps	1.73	1.76	1.78	1.80	1.83	1.85	1.88	1.91
	Lb/h	18.7	18.3	17.9	17.3	16.7	16.1	15.4	14.6
0	Btu/h	1670	1570	1470	1360	1250	1130	1020	905
	Watts	275	282	290	299	308	318	328	338
	Amps	1.80	1.83	1.85	1.88	1.91	1.95	1.98	2.02

	Lb/h	21.4	21.0	20.5	20.0	19.4	18.7	18.0	17.2
5	Btu/h	1890	1780	1670	1550	1430	1300	1180	1050
	Watts	298	306	315	324	335	346	358	371
	Amps	1.88	1.91	1.94	1.97	2.01	2.05	2.10	2.14
	Lb/h	24.3	23.9	23.4	22.9	22.3	21.6	20.8	20.0
10	Btu/h	2120	2000	1880	1750	1620	1480	1350	1210
	Watts	323	332	342	353	364	377	391	406
	Amps	1.97	2.00	2.04	2.08	2.13	2.17	2.22	2.28
	Lb/h	27.3	26.9	26.5	26.0	25.4	24.7	23.9	23.0

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	2.155310E+03	2.497868E+02	1.754659E+00	2.290145E+01
C2	5.061563E+01	5.221848E+00	1.516750E-02	4.832250E-01
C3	-1.096257E+00	-1.322711E-01	-1.369918E-03	-2.963217E-03
C4	2.922855E-01	4.309111E-02	1.892115E-04	2.671017E-03
C5	-5.240540E-02	-3.142292E-02	-7.649050E-05	1.456373E-03
C6	-7.713633E-02	6.480668E-03	2.871151E-05	-1.530562E-04
C7	-3.957384E-04	3.681942E-04	2.020543E-06	-2.310390E-06
C8	-2.890098E-04	2.008946E-05	5.797068E-07	1.438290E-05
C9	-6.571517E-04	2.570771E-04	8.652801E-07	-7.325922E-06
C10	1.925992E-04	-1.110895E-05	-5.246669E-08	-5.486722E-07

Value = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3

Te = Evaporator Temperature

Tc = Condensing Temperature

AE2413Y-FZ1A

General

Model	AE2413Y-FZ1A	Unit of Measure	Celsius
Condition	EN12900 (R-134a)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	20°C (68°F) RETURN GAS	Motor Type	CSIR

Performance Information

EVAP TEMP (°C)	Condensing Temperature (°C)							
		30	35	40	45	50	55	60
-40	Btu/h	416	381	346	313			
	Watts (Power)	151	152	153	152			
	Amps	1.47	1.47	1.47	1.47			
	Lb/h	5.39	5.16	4.92	4.67			
-35	Btu/h	603	556	508	460	414		
	Watts (Power)	174	177	179	181	181		
	Amps	1.52	1.53	1.53	1.53	1.53		
	Lb/h	7.81	7.50	7.17	6.84	6.48		
-30	Btu/h	839	779	718	656	594	534	476
	Watts (Power)	200	204	207	211	213	216	217
	Amps	1.58	1.59	1.60	1.61	1.61	1.62	1.62
	Lb/h	10.9	10.5	10.1	9.73	9.29	8.82	8.32
-25	Btu/h	1120	1050	974	897	820	743	667
	Watts (Power)	229	234	239	244	249	254	259
	Amps	1.66	1.67	1.69	1.70	1.72	1.73	1.74
	Lb/h	14.6	14.2	13.8	13.3	12.8	12.3	11.7
-23.3	Btu/h	1230	1150	1070	990	907	824	742
	Watts (Power)	239	245	251	256	262	268	274
	Amps	1.69	1.70	1.72	1.74	1.76	1.78	1.79
	Lb/h	16.0	15.6	15.2	14.7	14.2	13.7	13.0
-20	Btu/h	1450	1370	1280	1180	1090	995	901
	Watts (Power)	262	269	275	282	290	297	305
	Amps	1.76	1.78	1.80	1.82	1.85	1.87	1.90
	Lb/h	19.0	18.6	18.2	17.7	17.1	16.5	15.9
-15	Btu/h	1830	1730	1620	1510	1400	1290	1180
	Watts (Power)	303	310	318	328	337	347	358
	Amps	1.90	1.92	1.95	1.99	2.02	2.06	2.10
	Lb/h	24.0	23.6	23.2	22.7	22.1	21.5	20.8
-10	Btu/h	2240	2130	2010	1880	1750	1620	1490
	Watts (Power)	351	360	370	381	393	406	420
	Amps	2.08	2.11	2.15	2.19	2.24	2.29	2.34
	Lb/h	29.7	29.3	28.9	28.4	27.9	27.2	26.5

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.868919E+03	4.520209E+02	2.452848E+00	4.247710E+01
C2	1.172959E+02	1.513733E+01	5.959752E-02	1.288136E+00

C3	-1.576815E+01	-3.781854E-01	4.040251E-04	5.739156E-02
C4	7.939500E-01	2.562212E-01	1.301619E-03	9.426690E-03
C5	-3.659895E-01	-4.433700E-02	5.180326E-05	6.181983E-03
C6	-2.581491E-01	4.419579E-02	1.664183E-04	-1.426113E-03
C7	-2.307946E-03	2.147309E-03	1.178381E-05	-1.347419E-05
C8	-1.685505E-03	1.171617E-04	3.380850E-06	8.388107E-05
C9	-3.832509E-03	1.499274E-03	5.046314E-06	-4.272478E-05
C10	1.123239E-03	-6.478740E-05	-3.059857E-07	-3.199856E-06

Value = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3

Te = Evaporator Temperature

Tc = Condensing Temperature



Performance Data Sheet

AE2413Y-FZ1A

General

Model	AE2413Y-FZ1A	Unit of Measure	Fahrenheit
Condition	EN12900 (R-134a)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	20°C (68°F) RETURN GAS	MotorType	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)							
		80	90	100	110	120	130	140
-40	Btu/h	440	401	362	324			
	Watts	149	152	153	153			
	Amps	1.47	1.47	1.47	1.47			
	Lb/h	5.55	5.29	5.02	4.75			
-35	Btu/h	542	495	448	402			
	Watts	162	165	167	168			
	Amps	1.49	1.50	1.50	1.50			
	Lb/h	6.83	6.53	6.21	5.89			
-30	Btu/h	659	605	551	496	442		
	Watts	175	178	181	183	184		
	Amps	1.52	1.53	1.54	1.54	1.54		
	Lb/h	8.32	7.98	7.62	7.24	6.84		
-25	Btu/h	792	730	668	604	541		
	Watts	188	193	196	200	202		
	Amps	1.55	1.56	1.57	1.58	1.58		
	Lb/h	10.0	9.64	9.24	8.82	8.37		
-20	Btu/h	939	870	799	727	655	583	514
	Watts	203	208	212	217	220	223	226
	Amps	1.59	1.60	1.61	1.62	1.63	1.64	1.65
	Lb/h	11.9	11.5	11.1	10.6	10.1	9.58	9.00
-15	Btu/h	1100	1020	945	864	782	701	620
	Watts	219	224	229	235	240	245	249
	Amps	1.63	1.64	1.66	1.67	1.69	1.70	1.71
	Lb/h	14.0	13.6	13.1	12.6	12.1	11.5	10.9
-10	Btu/h	1280	1190	1110	1020	923	831	740
	Watts	236	242	248	254	261	267	273
	Amps	1.68	1.69	1.71	1.73	1.75	1.77	1.79
	Lb/h	16.3	15.8	15.4	14.9	14.3	13.7	13.0
-5	Btu/h	1470	1380	1280	1180	1080	975	873
	Watts	254	261	268	276	283	291	300
	Amps	1.73	1.76	1.78	1.80	1.83	1.85	1.88
	Lb/h	18.7	18.3	17.9	17.3	16.7	16.1	15.4
0	Btu/h	1670	1570	1470	1360	1250	1130	1020
	Watts	275	282	290	299	308	318	328
	Amps	1.80	1.83	1.85	1.88	1.91	1.95	1.98

	Lb/h	21.4	21.0	20.5	20.0	19.4	18.7	18.0
5	Btu/h	1890	1780	1670	1550	1430	1300	1180
	Watts	298	306	315	324	335	346	358
	Amps	1.88	1.91	1.94	1.97	2.01	2.05	2.10
	Lb/h	24.3	23.9	23.4	22.9	22.3	21.6	20.8
10	Btu/h	2120	2000	1880	1750	1620	1480	1350
	Watts	323	332	342	353	364	377	391
	Amps	1.97	2.00	2.04	2.08	2.13	2.17	2.22
	Lb/h	27.3	26.9	26.5	26.0	25.4	24.7	23.9
15	Btu/h	2370	2240	2110	1970	1830	1680	1530
	Watts	352	361	371	383	397	411	427
	Amps	2.08	2.12	2.16	2.20	2.25	2.31	2.37
	Lb/h	30.5	30.2	29.8	29.3	28.7	28.0	27.2

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	2.155310E+03	2.497868E+02	1.754659E+00	2.290145E+01
C2	5.061563E+01	5.221848E+00	1.516750E-02	4.832250E-01
C3	-1.096257E+00	-1.322711E-01	-1.369918E-03	-2.963216E-03
C4	2.922855E-01	4.309111E-02	1.892115E-04	2.671017E-03
C5	-5.240540E-02	-3.142292E-02	-7.649050E-05	1.456373E-03
C6	-7.713633E-02	6.480668E-03	2.871151E-05	-1.530562E-04
C7	-3.957384E-04	3.681942E-04	2.020543E-06	-2.310390E-06
C8	-2.890098E-04	2.008946E-05	5.797068E-07	1.438290E-05
C9	-6.571517E-04	2.570771E-04	8.652801E-07	-7.325922E-06
C10	1.925992E-04	-1.110895E-05	-5.246669E-08	-5.486722E-07

Value = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3

Te = Evaporator Temperature

Tc = Condensing Temperature