

Model: AE1420Z-FZ1B

Product Description

Type:	Reciprocating Compressors
Application:	LBP - Low Back Pressure
ProductDescription:	R-404A
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	220V ~ 50HZ	1600	403	469	363	4.41	1.11	1.29	-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:	Low Start Torque (LST)
Compressor Cooling:	Fan

Mechanical

Weight:	11
Weight Unit of Measure:	KG
Displacement (cc):	9.35
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):	18.5
Rated Load Amps (RLA 50 Hz):	2.55
Rated Load Amps (RLA 60 Hz):	0
Max. Continuous Current (MCC in Amps):	0
Motor Resistance (Ohm) - Main:	3.85
Motor Resistance (Ohm) - Start:	22.47
MotorType:	CSIR
Overload Type:	
Relay Type:	

Agency Approval

AE1420Z-FZ1B

General

Model	AE1420Z-FZ1B	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	752	676	596	514	430	346	261	177
	Watts (Power)	216	219	219	218	215	209	202	193
	Amps	2.15	2.15	2.15	2.14	2.13	2.11	2.09	2.05
	Lb/h	11.6	11.1	10.4	9.64	8.77	7.86	6.93	6.03
-35	Btu/h	1030	942	847	751	653	555	458	362
	Watts (Power)	248	253	256	257	256	254	250	244
	Amps	2.22	2.22	2.23	2.23	2.23	2.22	2.21	2.18
	Lb/h	16.2	15.6	14.9	14.1	13.2	12.3	11.4	10.5
-30	Btu/h	1370	1260	1140	1020	900	781	663	548
	Watts (Power)	279	286	291	295	297	298	297	295
	Amps	2.29	2.31	2.32	2.33	2.34	2.34	2.34	2.32
	Lb/h	21.5	20.9	20.1	19.2	18.2	17.2	16.2	15.3
-25	Btu/h	1780	1630	1480	1330	1180	1040	891	748
	Watts (Power)	310	320	328	334	339	343	346	348
	Amps	2.38	2.40	2.43	2.45	2.47	2.48	2.49	2.49
	Lb/h	28.0	27.2	26.2	25.2	24.1	23.0	21.9	20.9
-23.3	Btu/h	1940	1780	1610	1450	1290	1130	976	822
	Watts (Power)	321	331	340	348	354	359	363	366
	Amps	2.41	2.44	2.47	2.49	2.52	2.53	2.55	2.55
	Lb/h	30.5	29.6	28.6	27.5	26.4	25.3	24.1	23.0
-20	Btu/h	2270	2080	1890	1710	1520	1340	1150	976
	Watts (Power)	343	355	366	375	384	391	398	403
	Amps	2.48	2.52	2.55	2.58	2.62	2.64	2.66	2.68
	Lb/h	35.8	34.8	33.7	32.5	31.3	30.0	28.7	27.5
-15	Btu/h	2860	2620	2390	2150	1920	1690	1470	1250
	Watts (Power)	379	394	407	420	432	442	453	462
	Amps	2.61	2.65	2.70	2.74	2.79	2.83	2.86	2.89
	Lb/h	45.5	44.2	42.9	41.4	40.0	38.5	37.0	35.6
-10	Btu/h	3560	3270	2980	2690	2400	2120	1850	1570
	Watts (Power)	419	436	453	469	484	499	513	527
	Amps	2.76	2.81	2.87	2.93	2.98	3.04	3.09	3.13
	Lb/h	57.2	55.6	54.0	52.3	50.5	48.7	47.0	45.3

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	7.897769E+03	3.554963E+02	2.869671E+00	9.801914E+01
C2	2.998739E+02	7.941999E+00	3.258550E-02	4.201170E+00

C3	-8.448726E+01	5.909791E+00	1.049493E-03	-1.731712E-01
C4	3.991488E+00	1.324935E-01	5.894645E-04	6.695545E-02
C5	-3.177338E+00	7.570467E-02	3.055686E-04	-1.903992E-02
C6	-5.547246E-02	-2.422287E-02	3.380821E-04	-6.633620E-03
C7	1.856916E-02	1.599548E-03	4.763211E-06	4.272773E-04
C8	-3.127071E-02	6.399949E-04	3.349181E-06	-2.093816E-04
C9	2.877213E-03	8.487076E-04	3.329321E-06	2.759126E-05
C10	1.018738E-03	1.382204E-04	-2.345688E-06	4.548626E-05

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

AE1420Z-FZ1B

General

Model	AE1420Z-FZ1B	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	801	718	632	542	449	355	261	168
	Watts	213	218	219	219	215	210	202	192
	Amps	2.15	2.15	2.15	2.15	2.14	2.12	2.09	2.04
	Lb/h	11.9	11.4	10.7	9.91	8.97	7.96	6.93	5.93
-35	Btu/h	958	866	771	672	572	471	370	271
	Watts	230	236	239	240	238	234	229	221
	Amps	2.18	2.19	2.19	2.19	2.19	2.17	2.15	2.11
	Lb/h	14.3	13.9	13.2	12.3	11.4	10.4	9.35	8.36
-30	Btu/h	1130	1030	921	812	701	590	480	372
	Watts	247	254	258	261	261	259	255	249
	Amps	2.22	2.23	2.24	2.24	2.24	2.24	2.22	2.19
	Lb/h	17.0	16.5	15.8	14.9	13.9	12.9	11.9	10.9
-25	Btu/h	1320	1210	1090	962	839	715	593	473
	Watts	263	271	278	281	283	283	281	278
	Amps	2.26	2.27	2.28	2.30	2.30	2.30	2.29	2.27
	Lb/h	19.9	19.4	18.6	17.7	16.7	15.6	14.5	13.5
-20	Btu/h	1540	1400	1270	1130	987	849	712	578
	Watts	280	289	297	302	306	308	308	307
	Amps	2.30	2.32	2.34	2.35	2.37	2.37	2.37	2.36
	Lb/h	23.2	22.5	21.7	20.7	19.7	18.5	17.4	16.4
-15	Btu/h	1780	1620	1460	1310	1150	992	838	687
	Watts	296	307	316	323	329	333	335	336
	Amps	2.35	2.37	2.39	2.42	2.43	2.45	2.45	2.45
	Lb/h	26.8	26.1	25.2	24.1	23.0	21.8	20.6	19.5
-10	Btu/h	2040	1860	1680	1500	1330	1150	974	804
	Watts	313	326	336	345	353	358	363	366
	Amps	2.40	2.42	2.45	2.48	2.51	2.53	2.55	2.55
	Lb/h	30.9	30.0	29.0	27.9	26.6	25.3	24.1	22.9
-5	Btu/h	2330	2130	1930	1720	1520	1320	1120	930
	Watts	331	345	357	368	377	385	392	397
	Amps	2.45	2.49	2.52	2.56	2.59	2.62	2.64	2.66
	Lb/h	35.4	34.5	33.3	32.0	30.7	29.3	27.9	26.6
0	Btu/h	2660	2430	2200	1960	1740	1510	1290	1070
	Watts	349	365	379	391	402	412	422	430
	Amps	2.52	2.55	2.60	2.64	2.68	2.72	2.75	2.77

	Lb/h	40.5	39.4	38.1	36.7	35.2	33.7	32.2	30.8
5	Btu/h	3010	2750	2490	2230	1970	1720	1470	1220
	Watts	368	386	401	416	429	441	453	463
	Amps	2.58	2.63	2.68	2.73	2.78	2.82	2.86	2.89
	Lb/h	46.2	44.9	43.5	41.9	40.3	38.6	37.0	35.4
10	Btu/h	3410	3110	2820	2530	2240	1950	1670	1390
	Watts	389	408	425	442	457	472	485	499
	Amps	2.66	2.71	2.77	2.82	2.88	2.93	2.98	3.02
	Lb/h	52.6	51.1	49.5	47.7	45.9	44.1	42.3	40.6

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	4.357928E+03	1.492591E+02	2.610333E+00	3.782251E+01
C2	1.184388E+02	2.263688E+00	7.711058E-03	1.355840E+00
C3	-1.840410E+01	3.497210E+00	-8.591461E-03	2.197620E-01
C4	1.097857E+00	1.105143E-02	8.514985E-05	1.478076E-02
C5	-6.690716E-01	7.028712E-03	2.102185E-05	-3.881564E-03
C6	-4.967766E-02	-1.440826E-02	1.246906E-04	-2.947551E-03
C7	3.184012E-03	2.742709E-04	8.167372E-07	7.326429E-05
C8	-5.361918E-03	1.097385E-04	5.742766E-07	-3.590220E-05
C9	4.933492E-04	1.455260E-04	5.708712E-07	4.731012E-06
C10	1.746808E-04	2.370034E-05	-4.022098E-07	7.799428E-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

AE1420Z-FZ1B

General

Model	AE1420Z-FZ1B	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	Watts (Capacity)	220	198	175	151	126	101	76.5	51.9
	Watts (Power)	216	219	219	218	215	209	202	193
	Amps	2.15	2.15	2.15	2.14	2.13	2.11	2.09	2.05
	Lb/h	5.29	5.03	4.72	4.36	3.97	3.56	3.15	2.75
-35	Watts (Capacity)	303	276	248	220	191	163	134	106
	Watts (Power)	248	252	255	257	256	254	250	244
	Amps	2.22	2.22	2.23	2.23	2.23	2.22	2.21	2.18
	Lb/h	7.33	7.06	6.73	6.36	5.96	5.55	5.13	4.73
-30	Watts (Capacity)	402	368	334	299	264	229	194	161
	Watts (Power)	279	286	291	295	297	298	297	295
	Amps	2.29	2.31	2.32	2.33	2.34	2.34	2.34	2.32
	Lb/h	9.75	9.44	9.07	8.66	8.23	7.79	7.34	6.91
-25	Watts (Capacity)	522	478	435	391	347	304	261	219
	Watts (Power)	310	319	327	334	340	344	346	348
	Amps	2.38	2.40	2.43	2.45	2.47	2.48	2.49	2.49
	Lb/h	12.7	12.3	11.9	11.4	10.9	10.4	9.93	9.45
-23.3	Watts (Capacity)	568	521	473	426	379	332	286	241
	Watts (Power)	321	331	340	348	354	360	364	366
	Amps	2.41	2.44	2.47	2.49	2.52	2.53	2.55	2.55
	Lb/h	13.8	13.4	13.0	12.5	12.0	11.4	10.9	10.4
-20	Watts (Capacity)	665	610	555	500	446	392	338	286
	Watts (Power)	343	355	366	375	384	392	398	403
	Amps	2.48	2.52	2.55	2.58	2.62	2.64	2.66	2.68
	Lb/h	16.3	15.8	15.3	14.7	14.2	13.6	13.0	12.5
-15	Watts (Capacity)	838	769	700	631	563	496	430	365
	Watts (Power)	379	393	407	420	432	443	453	462
	Amps	2.61	2.65	2.70	2.74	2.79	2.83	2.86	2.89
	Lb/h	20.6	20.0	19.4	18.8	18.1	17.4	16.8	16.1
-10	Watts (Capacity)	1040	957	872	788	705	622	541	461
	Watts (Power)	419	436	453	469	484	499	513	526
	Amps	2.76	2.81	2.87	2.93	2.98	3.04	3.09	3.13
	Lb/h	25.9	25.2	24.4	23.7	22.9	22.1	21.3	20.5

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	2.314609E+03	3.764512E+02	2.869673E+00	4.456516E+01
C2	8.788437E+01	8.149718E+00	3.258557E-02	1.878608E+00

C3	-2.476085E+01	4.516150E+00	1.049414E-03	-9.748886E-02
C4	1.169789E+00	1.386400E-01	5.894664E-04	2.949326E-02
C5	-9.311869E-01	7.317428E-02	3.055676E-04	-8.365670E-03
C6	-1.625600E-02	7.102155E-03	3.380837E-04	-2.589732E-03
C7	5.442082E-03	1.616715E-03	4.763241E-06	1.834183E-04
C8	-9.164543E-03	5.300657E-04	3.349181E-06	-9.303818E-05
C9	8.432356E-04	8.166379E-04	3.329330E-06	1.054879E-05
C10	2.985543E-04	-9.657312E-05	-2.345697E-06	1.769921E-05

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

Te = Evaporator Temperature

Tc = Condensing Temperature