

Model: AE2420Z-FZ1C

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 (R-407A)	220V ~ 50HZ	1186	299	348	318	3.73	.94	1.09	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)
ASHRAE (R-449A)	220V ~ 50HZ	1484	374	435	342	4.34	1.09	1.27	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)
ASHRAE (R-448A)	220V ~ 50HZ	1484	374	435	342	4.34	1.09	1.27	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)
ASHRAE (R-452A)	220V ~ 50HZ	1507	380	442	360	4.19	1.06	1.23	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)
EN12900 (R-404A)	220V ~ 50HZ	840	211	246	252	3.33	.84	.97	-35°C (-31°F)	40°C (104°F)	32°C (90°F)	20°C (68°F)	40°C (104°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:	11
Weight Unit of Measure:	KG
Displacement (cc):	9.35
Oil Type:	Polyolester
Viscosity (cSt):	32
Oil Charge (cc):	380

Electrical

Voltage Range (50 Hz):	198-253
Voltage Range (60 Hz):	
Locked Rotor Amps (LRA):	16.4
Rated Load Amps (RLA 50 Hz):	2.3
Rated Load Amps (RLA 60 Hz):	0
Max. Continuous Current (MCC in Amps):	4.4
Motor Resistance (Ohm) - Main:	.913
Motor Resistance (Ohm) - Start:	3.851
MotorType:	CSIR

Overload Type:

Relay Type:

Agency Approval

CE Listed, GOST RUSSIA Listed, GOST UKRAINE Listed, VDE Listed

AE2420Z-FZ1C

General

Model	AE2420Z-FZ1C	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-404A)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	Motor Type	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)					
		100	110	120	130	140
-40	Btu/h	827				
	Watts	229				
	Amps	1.75				
	Lb/h	10.5				
-35	Btu/h	1000	889			
	Watts	249	249			
	Amps	1.79	1.78			
	Lb/h	12.8	12.0			
-30	Btu/h	1190	1070	942		
	Watts	270	272	272		
	Amps	1.85	1.85	1.84		
	Lb/h	15.3	14.4	13.4		
-25	Btu/h	1410	1270	1130	989	
	Watts	291	295	298	300	
	Amps	1.90	1.91	1.92	1.93	
	Lb/h	18.1	17.2	16.1	14.9	
-20	Btu/h	1650	1490	1340	1180	1030
	Watts	313	319	324	328	332
	Amps	1.97	1.99	2.01	2.02	2.03
	Lb/h	21.2	20.2	19.0	17.8	16.5
-15	Btu/h	1910	1740	1560	1390	1220
	Watts	335	344	351	358	364
	Amps	2.03	2.07	2.09	2.12	2.14
	Lb/h	24.6	23.5	22.3	20.9	19.6
-10	Btu/h	2190	2010	1820	1620	1440
	Watts	358	369	379	388	397
	Amps	2.11	2.15	2.19	2.22	2.26
	Lb/h	28.4	27.2	25.9	24.5	23.0
-5	Btu/h	2510	2300	2090	1880	1680
	Watts	381	394	407	420	431
	Amps	2.18	2.24	2.29	2.33	2.38
	Lb/h	32.5	31.2	29.9	28.4	26.9
0	Btu/h	2850	2620	2390	2160	1930
	Watts	404	420	436	452	467
	Amps	2.27	2.33	2.39	2.45	2.50

	Lb/h	37.0	35.7	34.2	32.7	31.1
5	Btu/h	3220	2970	2720	2460	2220
	Watts	427	447	466	484	503
	Amps	2.35	2.43	2.50	2.57	2.63
	Lb/h	42.0	40.6	39.0	37.4	35.8
10	Btu/h	3630	3350	3070	2800	2520
	Watts	451	473	496	518	539
	Amps	2.45	2.53	2.61	2.69	2.77
	Lb/h	47.4	45.9	44.3	42.6	40.9

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	4.323004E+03	1.273276E+02	1.462662E+00	3.735968E+01
C2	1.167367E+02	-1.974675E-01	-4.303557E-03	1.113923E+00
C3	-1.377588E+00	4.271780E+00	9.578844E-03	1.740105E-01
C4	8.881562E-01	-2.727196E-02	9.950939E-05	8.089646E-03
C5	-4.685635E-01	3.859546E-02	2.131816E-04	-1.856743E-03
C6	-1.870087E-01	-1.977882E-02	-1.534153E-05	-2.298165E-03
C7	1.926684E-03	-3.591404E-05	5.830868E-11	3.665382E-05
C8	-2.911646E-03	3.231732E-04	1.868021E-11	4.458476E-06
C9	1.510395E-04	9.752648E-05	-6.522146E-12	1.909116E-06
C10	5.353899E-04	4.694480E-05	1.298626E-12	5.258227E-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

AE2420Z-FZ1C

General

Model	AE2420Z-FZ1C	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-407A)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	MotorType	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)					
		100	110	120	130	140
-40	Btu/h	723				
	Watts	191				
	Amps	1.58				
	Lb/h	7.08				
-35	Btu/h	842	728			
	Watts	209	210			
	Amps	1.62	1.62			
	Lb/h	8.24	7.68			
-30	Btu/h	980	856	737		
	Watts	227	228	228		
	Amps	1.66	1.67	1.67		
	Lb/h	9.61	9.03	8.43		
-25	Btu/h	1140	1000	870	745	
	Watts	245	248	249	248	
	Amps	1.71	1.72	1.72	1.72	
	Lb/h	11.2	10.6	9.95	9.35	
-20	Btu/h	1310	1170	1020	878	746
	Watts	264	267	270	271	270
	Amps	1.76	1.78	1.78	1.79	1.78
	Lb/h	13.0	12.3	11.7	11.0	10.5
-15	Btu/h	1510	1350	1190	1020	872
	Watts	283	287	291	294	295
	Amps	1.82	1.84	1.85	1.86	1.86
	Lb/h	14.9	14.3	13.6	12.9	12.3
-10	Btu/h	1730	1550	1370	1190	1010
	Watts	302	308	313	318	321
	Amps	1.89	1.91	1.92	1.94	1.95
	Lb/h	17.1	16.5	15.8	15.0	14.4
-5	Btu/h	1960	1770	1570	1360	1160
	Watts	322	328	335	342	347
	Amps	1.95	1.98	2.00	2.02	2.04
	Lb/h	19.6	18.9	18.2	17.4	16.6
0	Btu/h	2220	2000	1780	1550	1330
	Watts	342	349	358	366	373
	Amps	2.02	2.05	2.08	2.11	2.14

	Lb/h	22.2	21.6	20.8	19.9	19.1
5	Btu/h	2490	2260	2010	1760	1510
	Watts	362	371	380	390	400
	Amps	2.10	2.13	2.17	2.20	2.24
	Lb/h	25.1	24.4	23.6	22.7	21.8
10	Btu/h	2790	2530	2260	1980	1700
	Watts	382	392	403	415	427
	Amps	2.17	2.21	2.25	2.30	2.34
	Lb/h	28.2	27.5	26.7	25.7	24.8

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	2.540762E+03	4.555877E+02	2.681012E+00	6.530703E+00
C2	6.722334E+01	6.170858E+00	1.829875E-02	3.729261E-01
C3	2.367963E+01	-4.168193E+00	-2.142073E-02	4.861004E-01
C4	7.190037E-01	2.366279E-03	9.780836E-06	4.350421E-03
C5	8.987723E-02	-5.983837E-02	-1.576420E-04	3.563527E-03
C6	-3.645122E-01	4.209606E-02	2.068143E-04	-4.451569E-03
C7	6.614821E-05	-5.170257E-05	-4.300035E-07	4.422054E-06
C8	-3.242865E-03	2.008789E-05	5.552525E-07	1.269706E-06
C9	-2.317438E-03	3.828348E-04	1.190557E-06	-1.790661E-05
C10	9.536357E-04	-1.179458E-04	-5.828542E-07	1.158203E-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

AE2420Z-FZ1C

General

Model	AE2420Z-FZ1C	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-448A)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	MotorType	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)					
		100	110	120	130	140
-40	Btu/h	755				
	Watts	201				
	Amps	1.61				
	Lb/h	7.61				
-35	Btu/h	914	811			
	Watts	219	219			
	Amps	1.65	1.64			
	Lb/h	9.30	8.73			
-30	Btu/h	1090	977	861		
	Watts	238	239	240		
	Amps	1.70	1.70	1.70		
	Lb/h	11.1	10.5	9.79		
-25	Btu/h	1290	1160	1030		
	Watts	257	260	262		
	Amps	1.76	1.77	1.77		
	Lb/h	13.2	12.5	11.7		
-20	Btu/h	1500	1360	1220	1080	
	Watts	276	281	286	289	
	Amps	1.81	1.83	1.85	1.86	
	Lb/h	15.4	14.7	13.8	12.9	
-15	Btu/h	1740	1590	1430	1270	
	Watts	295	303	309	315	
	Amps	1.88	1.91	1.93	1.96	
	Lb/h	17.9	17.1	16.2	15.3	
-10	Btu/h	2000	1830	1660	1480	1310
	Watts	315	325	334	342	350
	Amps	1.94	1.98	2.02	2.05	2.08
	Lb/h	20.7	19.8	18.8	17.8	16.8
-5	Btu/h	2290	2100	1910	1720	1530
	Watts	335	347	359	369	380
	Amps	2.02	2.06	2.11	2.15	2.19
	Lb/h	23.7	22.7	21.7	20.7	19.6
0	Btu/h	2600	2390	2180	1970	1770
	Watts	355	370	384	398	411
	Amps	2.09	2.15	2.21	2.26	2.31

	Lb/h	27.0	26.0	24.9	23.8	22.7
5	Btu/h	2940	2710	2480	2250	2020
	Watts	376	393	410	426	443
	Amps	2.17	2.24	2.31	2.37	2.43
	Lb/h	30.6	29.5	28.4	27.3	26.1
10	Btu/h	3310	3060	2810	2550	2310
	Watts	397	417	437	456	475
	Amps	2.26	2.34	2.41	2.48	2.55
	Lb/h	34.5	33.4	32.3	31.1	29.8

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.947941E+03	1.121234E+02	1.349472E+00	2.720602E+01
C2	1.066086E+02	-1.738847E-01	-3.970340E-03	8.111795E-01
C3	-1.258159E+00	3.761721E+00	8.837400E-03	1.267170E-01
C4	8.111040E-01	-2.401560E-02	9.180795E-05	5.891050E-03
C5	-4.279117E-01	3.398694E-02	1.966809E-04	-1.352122E-03
C6	-1.707828E-01	-1.741726E-02	-1.415291E-05	-1.673559E-03
C7	1.759556E-03	-3.164433E-05	-1.593122E-10	2.669311E-05
C8	-2.659061E-03	2.845856E-04	2.238545E-11	3.246508E-06
C9	1.379395E-04	8.588115E-05	5.122690E-12	1.390280E-06
C10	4.889366E-04	4.133975E-05	-2.945404E-12	3.829119E-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

AE2420Z-FZ1C

General

Model	AE2420Z-FZ1C	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-449A)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	MotorType	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)					
		100	110	120	130	140
-40	Btu/h	755				
	Watts	201				
	Amps	1.61				
	Lb/h	7.61				
-35	Btu/h	914	811			
	Watts	219	219			
	Amps	1.65	1.64			
	Lb/h	9.30	8.73			
-30	Btu/h	1090	977	861		
	Watts	238	239	240		
	Amps	1.70	1.70	1.70		
	Lb/h	11.1	10.5	9.79		
-25	Btu/h	1290	1160	1030		
	Watts	257	260	262		
	Amps	1.76	1.77	1.77		
	Lb/h	13.2	12.5	11.7		
-20	Btu/h	1500	1360	1220	1080	
	Watts	276	281	286	289	
	Amps	1.81	1.83	1.85	1.86	
	Lb/h	15.4	14.7	13.8	12.9	
-15	Btu/h	1740	1590	1430	1270	
	Watts	295	303	309	315	
	Amps	1.88	1.91	1.93	1.96	
	Lb/h	17.9	17.1	16.2	15.3	
-10	Btu/h	2000	1830	1660	1480	1310
	Watts	315	325	334	342	350
	Amps	1.94	1.98	2.02	2.05	2.08
	Lb/h	20.7	19.8	18.8	17.8	16.8
-5	Btu/h	2290	2100	1910	1720	1530
	Watts	335	347	359	369	380
	Amps	2.02	2.06	2.11	2.15	2.19
	Lb/h	23.7	22.7	21.7	20.7	19.6
0	Btu/h	2600	2390	2180	1970	1770
	Watts	355	370	384	398	411
	Amps	2.09	2.15	2.21	2.26	2.31

	Lb/h	27.0	26.0	24.9	23.8	22.7
5	Btu/h	2940	2710	2480	2250	2020
	Watts	376	393	410	426	443
	Amps	2.17	2.24	2.31	2.37	2.43
	Lb/h	30.6	29.5	28.4	27.3	26.1
10	Btu/h	3310	3060	2810	2550	2310
	Watts	397	417	437	456	475
	Amps	2.26	2.34	2.41	2.48	2.55
	Lb/h	34.5	33.4	32.3	31.1	29.8

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.947941E+03	1.121234E+02	1.349472E+00	2.720602E+01
C2	1.066086E+02	-1.738847E-01	-3.970340E-03	8.111795E-01
C3	-1.258159E+00	3.761721E+00	8.837400E-03	1.267170E-01
C4	8.111040E-01	-2.401560E-02	9.180795E-05	5.891050E-03
C5	-4.279117E-01	3.398694E-02	1.966809E-04	-1.352122E-03
C6	-1.707828E-01	-1.741726E-02	-1.415291E-05	-1.673559E-03
C7	1.759556E-03	-3.164433E-05	-1.593122E-10	2.669311E-05
C8	-2.659061E-03	2.845856E-04	2.238545E-11	3.246508E-06
C9	1.379395E-04	8.588115E-05	5.122690E-12	1.390280E-06
C10	4.889366E-04	4.133975E-05	-2.945404E-12	3.829119E-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

AE2420Z-FZ1C

General

Model	AE2420Z-FZ1C	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-452A)	Voltage/Frequency	220V ~ 50HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	Motor Type	CSIR

Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)					
		100	110	120	130	140
-40	Btu/h	767				
	Watts	212				
	Amps	1.65				
	Lb/h	9.60				
-35	Btu/h	928	824			
	Watts	231	231			
	Amps	1.69	1.68			
	Lb/h	11.7	11.0			
-30	Btu/h	1110	992	874		
	Watts	250	252	253		
	Amps	1.74	1.74	1.74		
	Lb/h	14.1	13.3	12.3		
-25	Btu/h	1310	1180	1050	917	
	Watts	270	274	276	278	
	Amps	1.80	1.81	1.81	1.82	
	Lb/h	16.6	15.8	14.8	13.7	
-20	Btu/h	1530	1380	1240	1100	954
	Watts	290	296	301	304	307
	Amps	1.85	1.87	1.89	1.91	1.92
	Lb/h	19.5	18.5	17.5	16.3	15.1
-15	Btu/h	1770	1610	1450	1290	1140
	Watts	311	319	326	332	337
	Amps	1.92	1.95	1.98	2.00	2.02
	Lb/h	22.6	21.6	20.4	19.2	18.0
-10	Btu/h	2040	1860	1680	1510	1330
	Watts	332	342	351	360	368
	Amps	1.99	2.03	2.06	2.10	2.13
	Lb/h	26.1	25.0	23.8	22.5	21.1
-5	Btu/h	2330	2130	1940	1740	1550
	Watts	353	366	378	389	400
	Amps	2.06	2.11	2.16	2.20	2.24
	Lb/h	29.8	28.7	27.4	26.1	24.7
0	Btu/h	2640	2430	2220	2000	1790
	Watts	374	390	404	419	432
	Amps	2.14	2.20	2.26	2.31	2.36

	Lb/h	34.0	32.8	31.4	30.0	28.6
5	Btu/h	2990	2760	2520	2290	2060
	Watts	396	414	432	449	466
	Amps	2.22	2.29	2.36	2.42	2.48
	Lb/h	38.6	37.3	35.8	34.4	32.9
10	Btu/h	3360	3110	2850	2590	2340
	Watts	418	439	460	480	500
	Amps	2.31	2.39	2.47	2.54	2.61
	Lb/h	43.5	42.2	40.7	39.2	37.6

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	4.010239E+03	1.180302E+02	1.379619E+00	3.430085E+01
C2	1.082909E+02	-1.830350E-01	-4.059116E-03	1.022720E+00
C3	-1.277996E+00	3.959884E+00	9.035109E-03	1.597623E-01
C4	8.239022E-01	-2.528083E-02	9.386116E-05	7.427297E-03
C5	-4.346644E-01	3.577712E-02	2.010765E-04	-1.704717E-03
C6	-1.734780E-01	-1.833478E-02	-1.447125E-05	-2.109991E-03
C7	1.787431E-03	-3.329842E-05	6.737876E-11	3.365229E-05
C8	-2.701015E-03	2.995779E-04	8.144192E-12	4.093381E-06
C9	1.401176E-04	9.040649E-05	2.200464E-12	1.752785E-06
C10	4.966528E-04	4.351750E-05	3.112501E-12	4.827676E-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

AE2420Z-FZ1C

General

Model	AE2420Z-FZ1C	Unit of Measure	Celsius
Condition	EN12900	Voltage/Frequency	230V ~ 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)	224	199	175	150	127	104	81.2	59.7
	Watts (Power)	214	215	215	213	210	206	201	196
	Amps	1.83	1.81	1.79	1.77	1.75	1.72	1.69	1.66
-35	Watts (Capacity)	305	276	246	217	188	159	130	103
	Watts (Power)	246	250	252	253	253	252	251	249
	Amps	1.89	1.89	1.89	1.89	1.88	1.88	1.86	1.85
-30	Watts (Capacity)	404	368	332	296	260	223	188	152
	Watts (Power)	279	286	291	295	299	301	303	305
	Amps	1.97	1.99	2.01	2.02	2.04	2.05	2.05	2.06
-25	Watts (Capacity)	522	478	434	390	345	300	255	210
	Watts (Power)	312	322	331	339	346	352	359	364
	Amps	2.07	2.11	2.14	2.18	2.21	2.23	2.26	2.28
-23.3	Watts (Capacity)	567	520	473	425	377	329	280	232
	Watts (Power)	323	334	345	354	362	370	378	385
	Amps	2.11	2.15	2.19	2.23	2.27	2.30	2.33	2.36
-20	Watts (Capacity)	661	609	555	500	445	390	334	278
	Watts (Power)	345	359	372	384	395	406	417	427
	Amps	2.19	2.24	2.29	2.34	2.39	2.44	2.48	2.52
-15	Watts (Capacity)	824	760	695	629	563	495	427	359
	Watts (Power)	378	396	414	430	446	462	478	493
	Amps	2.32	2.39	2.46	2.53	2.59	2.66	2.72	2.77
-10	Watts (Capacity)	1010	936	858	779	699	618	537	454
	Watts (Power)	411	434	456	478	499	520	541	563
	Amps	2.46	2.56	2.64	2.73	2.81	2.89	2.97	3.05

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	2.060742E+03	2.550079E+02	1.997540E+00	
C2	7.049388E+01	1.395555E-01	1.650550E-02	
C3	-1.808492E+01	8.244190E+00	2.863650E-02	
C4	8.080380E-01	-5.854450E-02	3.326730E-04	
C5	-5.894326E-01	1.975103E-01	7.126730E-04	
C6	-5.767999E-02	-3.530465E-02	-5.128620E-05	
C7	2.593462E-03	-1.171908E-04	0.000000E+00	
C8	-6.221480E-03	1.782869E-03	0.000000E+00	
C9	-1.016029E-03	5.573904E-04	0.000000E+00	
C10	1.961988E-04	2.489041E-04	0.000000E+00	

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

Te = Evaporator Temperature

Tc = Condensing Temperature