Technical Datasheet

6/07/2022

Model: AE4425Y-FZ1A

Product Description

Type: Reciprocating Compressors

Application: HBP/CBP - High/Commercial Back Pressure

ProductDescription: R-134a

Voltage/Frequency: 220-240V ~ 50Hz

Version: N/A

Product Specifications

Performance

		Refrigeration Capacity			Input Power	(E) Efficiency							
Condition	Test Voltage	(R) Btu/h	(R) kcal/h	(R) W	(I) W	(E) Btu/Wh	(E) kcal/Wh	W/W	EVAP TEMP	Condition	AMBIENT TEMP	RETURN GAS	LIQUID TEMP
ASHRAE (R-134a)	220V ~ 50HZ	2300	580	674	279	8.24	2.08	2.42	7.2°C (45°F)	54°C (130°F)	35°C (95°F)	35°C (95°F)	46°C (115°F)
ASHRAE (R-513A)	220V ~ 50HZ	2384	601	698	302	7.9	1.99	2.31	7.2°C (45°F)	54°C (130°F)	35°C (95°F)	35°C (95°F)	46°C (115°F)

General

Evaporating Temp. Range:	-15°C to 15°C (5°F to 59°F)
Motor Torque:	High Start Torque (HST)
Compressor Cooling:	Fan

Mechanical

Weight:	9
Weight Unit of Measure:	KG
Displacement (cc):	6.69
Oil Type:	Polyolester
Viscosity (cSt):	32
Oil Charge (cc):	285

Electrical

Voltage Range (50 Hz):	198-253
Voltage Range (60 Hz):	
Locked Rotor Amps (LRA):	10.5
Rated Load Amps (RLA 50 Hz):	1.65
Rated Load Amps (RLA 60 Hz):	0
Max. Continuous Current (MCC in Amps):	0
Motor Resistance (Ohm) - Main:	12.85
Motor Resistance (Ohm) - Start:	27.56
MotorType:	CSIR
Overload Type:	
Relay Type:	

Agency Approval

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

Tecumseh

Performance Data Sheet

AE4425Y-FZ1A

General

Model	AE4425Y-FZ1A	**Unit of Measure**	Fahrenheit
Condition	ASHRAE(R-513A)	**Voltage/Frequency**	220V~50HZ
RETURN GAS	10K (18°F) SUPERHEAT	**MotorType**	CSIR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)							
		80	90	100	110	120	130	140	150
5	Btu/h	1520	1290	1120	989	890	804	713	603
	Watts	187	181	179	180	183	186	187	185
	Amps	1.36	1.35	1.34	1.34	1.35	1.35	1.35	1.35
	Lb/h	19.7	17.1	15.3	14.1	13.3	12.6	11.8	10.7
10	Btu/h	1680	1450	1280	1150	1050	951	849	724
	Watts	191	188	188	192	197	201	203	202
	Amps	1.37	1.37	1.37	1.38	1.39	1.40	1.41	1.40
	Lb/h	21.8	19.3	17.6	16.5	15.7	15.0	14.1	12.8
15	Btu/h	1860	1640	1460	1330	1220	1110	994	852
	Watts	195	194	198	204	210	216	219	218
	Amps	1.38	1.38	1.40	1.42	1.44	1.46	1.46	1.46
	Lb/h	24.2	21.8	20.1	19.0	18.2	17.5	16.5	15.0
20	Btu/h	2070	1840	1660	1520	1400	1280	1150	990
	Watts	197	200	206	215	224	231	236	236
	Amps	1.38	1.40	1.43	1.46	1.49	1.51	1.52	1.52
	Lb/h	26.8	24.5	22.9	21.9	21.1	20.2	19.1	17.5
25	Btu/h	2300	2070	1880	1730	1600	1470	1320	1140
	Watts	199	205	215	226	237	246	252	253
	Amps	1.38	1.42	1.45	1.50	1.53	1.57	1.59	1.59
	Lb/h	29.7	27.5	26.0	25.0	24.2	23.2	22.0	20.2
30	Btu/h	2550	2320	2130	1970	1820	1670	1500	1300
	Watts	199	209	222	236	250	261	269	271
	Amps	1.38	1.43	1.48	1.53	1.58	1.62	1.65	1.66
	Lb/h	33.0	30.9	29.5	28.4	27.5	26.6	25.2	23.2
35	Btu/h	2830	2590	2390	2220	2060	1890	1710	1480
	Watts	198	213	229	246	263	276	286	289
	Amps	1.38	1.44	1.51	1.57	1.63	1.68	1.72	1.73
	Lb/h	36.6	34.6	33.2	32.2	31.3	30.2	28.7	26.6
40	Btu/h	3150	2900	2690	2500	2320	2140	1930	1680
	Watts	197	215	235	256	275	291	303	308
	Amps	1.37	1.45	1.53	1.61	1.68	1.74	1.78	1.81
	Lb/h	40.7	38.8	37.4	36.4	35.4	34.2	32.6	30.2
45	Btu/h	3490	3230	3010	2810	2610	2400	2170	1890
	Watts	193	216	240	264	287	305	319	326
	Amps	1.36	1.46	1.55	1.65	1.73	1.80	1.85	1.89

	Lb/h	45.2	43.4	42.0	41.0	39.9	38.6	36.8	34.3
50	Btu/h	3870	3600	3360	3140	2930	2700	2430	2130
	Watts	189	216	245	272	298	319	336	345
	Amps	1.35	1.46	1.57	1.68	1.78	1.86	1.92	1.96
	Lb/h	50.2	48.4	47.1	46.0	44.9	43.5	41.5	38.8
55	Btu/h	4280	4000	3740	3510	3270	3010	2720	2390
	Watts	183	215	248	279	308	333	352	363
	Amps	1.33	1.46	1.59	1.71	1.82	1.92	1.99	2.04
	Lb/h	55.7	54.0	52.7	51.5	50.3	48.8	46.7	43.7

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	7.451287E+03	6.391916E+02	2.551570E+00	1.051625E+02
C2	-2.522380E+00	-6.421430E+00	-2.577101E-02	-2.138499E-01
C3	-1.417771E+02	-1.186416E+01	-3.075542E-02	-2.116455E+00
C4	6.145083E-01	-4.271299E-02	-1.209378E-04	4.911426E-03
C5	6.025029E-01	1.270277E-01	4.575955E-04	1.085178E-02
C6	1.036255E+00	9.833809E-02	2.534367E-04	1.623383E-02
C7	2.546923E-03	-1.157280E-04	-6.220530E-07	4.590365E-05
C8	-3.584325E-03	3.859758E-04	1.507638E-06	-1.838126E-05
C9	-2.900133E-03	-4.269361E-04	-1.475865E-06	-4.600723E-05
C10	-2.670547E-03	-2.673335E-04	-6.951669E-07	-4.274170E-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

Tecumseh

Performance Data Sheet

AE4425Y-FZ1A

General

Model	AE4425Y-FZ1A	**Unit of Measure**	Celsius
Condition	EN12900(R-134a)	**Voltage/Frequency**	220V~50HZ
RETURN GAS	10K (18°F) SUPERHEAT	**MotorType**	CSIR

Performance Information

EVAP TEMP (°C)		Condensing Temperature (°C)							
		30	35	40	45	50	55	60	65
-15	Btu/h	1710	1580	1460	1340	1230	1120	1020	927
	Watts (Power)	271	279	288	295	302	307	311	312
	Amps	2.67	2.69	2.70	2.71	2.71	2.72	2.71	2.71
	Lb/h	22.4	21.6	20.9	20.2	19.5	18.9	18.4	17.9
-10	Btu/h	2180	2040	1890	1750	1600	1470	1330	1210
	Watts (Power)	290	301	312	322	331	339	346	351
	Amps	2.70	2.72	2.73	2.75	2.77	2.78	2.79	2.79
	Lb/h	28.7	27.9	27.1	26.2	25.4	24.6	23.8	23.0
-6.7	Btu/h	2540	2380	2220	2050	1890	1730	1570	1420
	Watts (Power)	304	316	328	340	351	361	370	377
	Amps	2.72	2.74	2.77	2.79	2.81	2.83	2.85	2.86
	Lb/h	33.6	32.7	31.8	30.9	29.9	29.0	28.0	27.1
-5	Btu/h	2740	2570	2400	2220	2050	1880	1710	1540
	Watts (Power)	310	324	337	350	362	373	383	391
	Amps	2.74	2.76	2.78	2.81	2.83	2.86	2.88	2.90
	Lb/h	36.3	35.4	34.5	33.5	32.5	31.5	30.5	29.4
0	Btu/h	3400	3200	2990	2780	2570	2360	2150	1940
	Watts (Power)	329	345	361	377	392	407	421	433
	Amps	2.78	2.81	2.84	2.88	2.91	2.95	2.98	3.01
	Lb/h	45.3	44.4	43.4	42.3	41.1	39.9	38.7	37.4
5	Btu/h	4170	3930	3680	3430	3170	2920	2660	2410
	Watts (Power)	344	363	383	402	421	440	458	475
	Amps	2.82	2.86	2.90	2.94	2.99	3.04	3.09	3.14
	Lb/h	55.9	54.9	53.9	52.7	51.4	50.0	48.6	47.0
7.2	Btu/h	4540	4280	4010	3740	3470	3190	2920	2640
	Watts (Power)	350	370	391	413	433	454	474	492
	Amps	2.84	2.88	2.92	2.98	3.03	3.09	3.14	3.20
	Lb/h	61.1	60.1	59.0	57.8	56.5	55.0	53.5	51.8
10	Btu/h	5040	4760	4470	4170	3870	3570	3270	2960
	Watts (Power)	355	378	401	425	448	471	493	514
	Amps	2.85	2.90	2.95	3.01	3.07	3.14	3.20	3.27
	Lb/h	68.2	67.3	66.2	64.9	63.5	61.9	60.3	58.5
15	Btu/h	6040	5710	5370	5030	4680	4320	3960	3600
	Watts (Power)	361	387	415	442	470	497	525	551
	Amps	2.88	2.94	3.00	3.07	3.15	3.23	3.31	3.39
	Lb/h								

	Lb/h	82.5	81.5	80.4	79.0	77.5	75.8	74.0	72.0

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	4.441585E+03	2.463917E+02	2.762885E+00	4.884869E+01
C2	1.756639E+02	6.420573E-01	3.895616E-03	1.841388E+00
C3	-2.729852E+01	1.968300E+00	-5.865424E-03	-4.912851E-02
C4	2.661906E+00	-1.023878E-01	-1.472259E-04	3.004821E-02
C5	-9.122450E-01	7.025442E-02	-1.837935E-07	8.129872E-03
C6	-3.085982E-01	3.585090E-02	2.672622E-04	-2.576329E-03
C7	1.075845E-02	-1.882997E-03	-6.320232E-06	2.192317E-04
C8	-1.907069E-02	1.477910E-03	4.718652E-06	5.564460E-05
C9	-7.055070E-03	7.505685E-04	4.849225E-06	-1.459407E-04
C10	2.104463E-03	-3.375648E-04	-1.807700E-06	9.551271E-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

Tecumseh

Performance Data Sheet

AE4425Y-FZ1A

General

Model	AE4425Y-FZ1A	**Unit of Measure**	Fahrenheit
Condition	EN12900(R-134a)	**Voltage/Frequency**	220V~50HZ
RETURN GAS	10K (18°F) SUPERHEAT	**MotorType**	CSIR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)							
		80	90	100	110	120	130	140	150
5	Btu/h	1790	1650	1520	1380	1260	1130	1020	917
	Watts	264	275	284	293	300	306	311	312
	Amps	2.67	2.68	2.69	2.70	2.71	2.72	2.71	2.70
	Lb/h	22.9	22.1	21.2	20.4	19.7	19.0	18.4	17.9
10	Btu/h	2050	1900	1750	1600	1460	1320	1190	1060
	Watts	275	286	297	307	316	324	330	333
	Amps	2.68	2.69	2.71	2.72	2.74	2.75	2.75	2.75
	Lb/h	26.3	25.4	24.5	23.6	22.8	22.0	21.2	20.5
15	Btu/h	2340	2170	2010	1840	1680	1520	1370	1230
	Watts	285	298	310	322	332	342	350	355
	Amps	2.70	2.71	2.73	2.75	2.77	2.79	2.80	2.80
	Lb/h	30.1	29.1	28.2	27.2	26.3	25.4	24.4	23.6
20	Btu/h	2650	2470	2290	2110	1930	1750	1570	1410
	Watts	295	309	323	336	349	360	370	378
	Amps	2.71	2.73	2.76	2.78	2.81	2.83	2.85	2.86
	Lb/h	34.2	33.2	32.3	31.2	30.2	29.1	28.1	27.0
25	Btu/h	3000	2800	2600	2400	2200	2000	1800	1610
	Watts	305	321	336	351	366	379	391	401
	Amps	2.73	2.76	2.78	2.81	2.85	2.88	2.90	2.92
	Lb/h	38.8	37.8	36.8	35.7	34.5	33.4	32.2	30.9
30	Btu/h	3370	3160	2940	2720	2490	2270	2040	1830
	Watts	315	332	349	366	382	398	412	425
	Amps	2.75	2.78	2.81	2.85	2.89	2.92	2.96	2.99
	Lb/h	43.8	42.8	41.7	40.6	39.3	38.1	36.7	35.3
35	Btu/h	3780	3550	3310	3060	2810	2560	2310	2070
	Watts	323	342	361	380	399	416	433	448
	Amps	2.77	2.81	2.84	2.89	2.93	2.97	3.02	3.06
	Lb/h	49.2	48.3	47.2	45.9	44.6	43.3	41.8	40.3
40	Btu/h	4230	3970	3710	3430	3160	2880	2600	2330
	Watts	330	351	372	393	414	434	454	472
	Amps	2.79	2.83	2.87	2.92	2.97	3.03	3.08	3.13
	Lb/h	55.2	54.2	53.1	51.9	50.5	49.0	47.4	45.7
45	Btu/h	4710	4430	4140	3840	3530	3230	2920	2610
	Watts	336	359	382	406	429	452	474	495
	Amps	2.81	2.85	2.90	2.96	3.02	3.08	3.14	3.20

	Lb/h	61.7	60.8	59.6	58.3	56.8	55.3	53.5	51.7
50	Btu/h	5220	4920	4600	4270	3940	3600	3270	2930
	Watts	340	365	391	417	443	468	493	517
	Amps	2.83	2.87	2.93	2.99	3.06	3.13	3.20	3.27
	Lb/h	68.8	67.8	66.7	65.3	63.8	62.1	60.3	58.3
55	Btu/h	5780	5440	5100	4740	4380	4010	3640	3260
	Watts	343	370	398	426	455	483	511	538
	Amps	2.84	2.89	2.96	3.03	3.10	3.18	3.26	3.35
	Lb/h	76.5	75.5	74.3	72.9	71.4	69.6	67.6	65.5

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	2.333944E+03	2.011158E+02	2.827693E+00	2.746011E+01
C2	5.175132E+01	1.344215E+00	4.253508E-03	4.585491E-01
C3	-4.777718E+00	3.672122E-02	-6.956814E-03	-9.314623E-02
C4	7.491223E-01	-8.714591E-03	3.270555E-05	5.360067E-03
C5	5.145369E-03	-2.771717E-03	-1.050540E-04	3.500123E-03
C6	-9.117678E-02	1.250337E-02	8.563718E-05	-1.516139E-04
C7	1.844728E-03	-3.228732E-04	-1.083716E-06	3.759117E-05
C8	-3.270009E-03	2.534139E-04	8.090967E-07	9.541255E-06
C9	-1.209717E-03	1.286983E-04	8.314857E-07	-2.502412E-05
C10	3.608475E-04	-5.788149E-05	-3.099623E-07	1.637735E-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

Tecumseh

Performance Data Sheet

AE4425Y-FZ1A

General

Model	AE4425Y-FZ1A	**Unit of Measure**	Celsius
Condition	EN12900(R-134a)	**Voltage/Frequency**	240V~50HZ
RETURN GAS	10K (18°F) SUPERHEAT	**MotorType**	CSIR

Performance Information

EVAP TEMP (°C)		Condensing Temperature (°C)							
		30	35	40	45	50	55	60	65
-15	Watts (Capacity)	324	314	295	269	237	202	164	127
	Watts (Power)	164	173	179	182	182	181	177	172
	Amps	1.30	1.32	1.34	1.34	1.34	1.34	1.33	1.31
	Lb/h	7.90	8.08	7.98	7.66	7.16	6.55	5.86	5.15
-10	Watts (Capacity)	407	394	372	344	312	276	239	203
	Watts (Power)	175	186	194	200	204	205	206	204
	Amps	1.33	1.36	1.38	1.39	1.40	1.41	1.41	1.41
	Lb/h	9.69	9.91	9.87	9.62	9.22	8.71	8.15	7.58
-6.7	Watts (Capacity)	469	453	428	398	363	326	288	251
	Watts (Power)	181	194	203	211	217	221	223	225
	Amps	1.35	1.38	1.41	1.43	1.44	1.46	1.47	1.47
	Lb/h	11.0	11.2	11.2	11.0	10.6	10.1	9.62	9.12
-5	Watts (Capacity)	505	485	459	427	390	352	313	275
	Watts (Power)	184	197	208	216	223	228	232	236
	Amps	1.36	1.39	1.42	1.44	1.47	1.48	1.50	1.51
	Lb/h	11.7	11.9	11.9	11.7	11.3	10.9	10.4	9.91
0	Watts (Capacity)	622	594	560	521	479	435	392	350
	Watts (Power)	190	205	219	230	241	249	257	265
	Amps	1.38	1.42	1.46	1.49	1.52	1.56	1.58	1.61
	Lb/h	14.1	14.3	14.2	14.0	13.6	13.1	12.7	12.3
5	Watts (Capacity)	765	727	683	634	583	532	481	433
	Watts (Power)	193	211	228	242	256	269	281	293
	Amps	1.40	1.44	1.49	1.53	1.58	1.62	1.67	1.71
	Lb/h	17.1	17.1	16.9	16.6	16.2	15.7	15.2	14.8
7.2	Watts (Capacity)	838	794	745	691	636	580	525	474
	Watts (Power)	194	213	231	247	262	276	290	304
	Amps	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.76
	Lb/h	18.6	18.5	18.3	17.9	17.5	17.0	16.4	16.0
10	Watts (Capacity)	940	888	832	771	709	647	587	531
	Watts (Power)	194	215	234	252	269	286	302	318
	Amps	1.40	1.46	1.51	1.57	1.63	1.69	1.75	1.81
	Lb/h	20.7	20.5	20.2	19.8	19.3	18.7	18.1	17.6
15	Watts (Capacity)	1150	1090	1010	939	863	788	716	648
	Watts (Power)	192	216	238	259	280	301	321	342
	Amps	1.40	1.46	1.53	1.60	1.67	1.75	1.82	1.90

	Lb/h	25.1	24.7	24.2	23.6	22.9	22.2	21.5	20.9

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	5.446330E+02	3.352130E+01	1.110840E+00	5.672270E+00
C2	4.041770E+01	-5.672880E-01	1.694830E-03	7.031830E-01
C3	1.194750E+01	7.422650E+00	1.023630E-02	5.690880E-01
C4	8.198500E-01	-6.538010E-02	-2.402570E-04	1.656480E-02
C5	-5.741940E-01	1.139180E-02	-1.104900E-04	-7.842620E-03
C6	-3.833400E-01	-8.634450E-02	-4.042260E-05	-1.161830E-02
C7	7.861270E-03	-1.017140E-04	-2.689910E-06	1.901400E-04
C8	-1.007500E-02	4.690490E-04	3.280040E-06	-2.016620E-04
C9	2.957740E-03	1.311040E-03	6.133120E-06	6.863930E-05
C10	2.361850E-03	4.141480E-04	2.258680E-08	6.804600E-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