Technical Datasheet

4/22/2022

Model: AE4430E-FZ1A

Product Description

Type: Reciprocating Compressors

Application: HBP/CBP - High/Commercial Back Pressure

ProductDescription: R-22

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	220V ~ 50HZ	2650	668	777	318	8.33	2.1	2.44	-23°C (-10°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:	11
Weight Unit of Measure:	KG
Displacement (cc):	5.16
Oil Type:	Synthetic Alkylate
Viscosity (cSt):	32
Oil Charge (cc):	380

Electrical

Voltage Range (50 Hz):	198-253
Voltage Range (60 Hz):	
Locked Rotor Amps (LRA):	14.5
Rated Load Amps (RLA 50 Hz):	1.97
Rated Load Amps (RLA 60 Hz):	0
Max. Continuous Current (MCC in Amps):	0
Motor Resistance (Ohm) - Main:	9.392
Motor Resistance (Ohm) - Start:	12.024
MotorType:	CSIR
Overload Type:	
Relay Type:	

Agency Approval

CE Listed, VDE Listed

Tecumseh

Performance Data Sheet

AE4430E-FZ1A

General

Model	AE4430E-FZ1A	**Unit of Measure**	Celsius
Condition	EN12900(R-22)	**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
-25	Btu/h	789	725					
	Watts (Power)	165	170					
	Amps	1.54	1.55					
	Lb/h	9.76	9.25					
-23.3	Btu/h	869	802					
	Watts (Power)	170	175					
	Amps	1.55	1.56					
	Lb/h	10.8	10.3					
-20	Btu/h	1040	965	891	814			
	Watts (Power)	178	185	190	194			
	Amps	1.57	1.58	1.59	1.60			
	Lb/h	13.0	12.5	11.9	11.3			
-15	Btu/h	1330	1250	1160	1070	984	891	
	Watts (Power)	190	199	206	213	218	223	
	Amps	1.60	1.61	1.63	1.65	1.66	1.67	
	Lb/h	16.7	16.2	15.6	15.0	14.3	13.5	
-10	Btu/h	1680	1580	1480	1370	1270	1160	1050
	Watts (Power)	200	211	221	230	239	246	254
	Amps	1.62	1.65	1.67	1.69	1.72	1.74	1.76
	Lb/h	21.2	20.6	19.9	19.3	18.6	17.8	16.9
-6.7	Btu/h	1950	1830	1710	1600	1480	1360	1240
	Watts (Power)	205	218	230	241	251	261	271
	Amps	1.63	1.66	1.69	1.72	1.75	1.78	1.81
	Lb/h	24.5	23.9	23.2	22.5	21.7	20.9	20.1
-5	Btu/h	2090	1970	1850	1720	1600	1470	1340
	Watts (Power)	207	221	234	246	257	268	279
	Amps	1.64	1.67	1.71	1.74	1.77	1.80	1.84
	Lb/h	26.4	25.7	25.0	24.3	23.5	22.7	21.8
0	Btu/h	2570	2420	2270	2120	1970	1820	1670
	Watts (Power)	210	227	243	259	273	288	302
	Amps	1.65	1.69	1.74	1.78	1.82	1.87	1.91
	Lb/h	32.7	31.9	31.0	30.2	29.3	28.4	27.4
5	Btu/h	3120	2940	2760	2580	2400	2220	2050
	Watts (Power)	209	230	249	268	287	305	323
	Amps	1.65	1.70	1.76	1.81	1.87	1.93	1.99

	Lb/h	40.1	39.0	38.0	37.0	36.0	35.0	33.9
7.2	Btu/h	3390	3190	2990	2800	2610	2420	2230
	Watts (Power)	207	229	250	271	291	311	331
	Amps	1.65	1.70	1.76	1.82	1.89	1.95	2.02
	Lb/h	43.7	42.6	41.5	40.4	39.3	38.2	37.1
10	Btu/h	3750	3530	3310	3100	2890	2680	2470
	Watts (Power)	203	227	251	273	296	318	340
	Amps	1.64	1.70	1.77	1.84	1.91	1.98	2.05
	Lb/h	48.7	47.5	46.3	45.1	43.9	42.7	41.5
15	Btu/h	4460	4200	3940	3690	3440	3190	2950
	Watts (Power)	190	219	247	274	300	327	353
	Amps	1.61	1.68	1.76	1.84	1.93	2.02	2.11
	Lb/h	58.7	57.3	55.8	54.4	53.0	51.6	50.2

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.547571E+03	7.199414E+01	1.444132E+00	3.828367E+01
C2	1.416169E+02	-3.434053E+00	-6.367075E-03	1.612174E+00
C3	-3.533689E+01	5.930967E+00	5.411817E-03	-2.179577E-01
C4	2.027131E+00	-1.261557E-01	-3.604920E-04	2.697507E-02
C5	-1.422353E+00	1.146183E-01	1.512400E-04	-1.021015E-02
C6	1.159371E-01	-5.344898E-02	6.054290E-05	1.491825E-03
C7	8.479343E-03	-1.039575E-03	-3.869390E-06	1.913690E-04
C8	-1.901888E-02	1.272095E-03	4.618710E-06	-1.522500E-04
C9	3.801180E-03	2.662800E-04	3.483470E-06	5.770490E-05
C10	-7.987410E-04	3.079900E-04	-3.390810E-07	-1.468540E-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

AE4430E-FZ1A

General

Model	AE4430E-FZ1A	**Unit of Measure**	Fahrenheit
Condition	EN12900(R-22)	**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**	**150**
5	Btu/h	1390	1300	1200	1100	1000	901	794	681
	Watts	184	194	203	211	217	223	228	233
	Amps	1.58	1.60	1.62	1.64	1.66	1.67	1.68	1.69
	Lb/h	17.0	16.5	15.9	15.2	14.5	13.6	12.7	11.6
10	Btu/h	1580	1480	1370	1270	1160	1050	934	814
	Watts	188	201	211	220	228	236	243	250
	Amps	1.59	1.62	1.64	1.67	1.69	1.71	1.72	1.74
	Lb/h	19.4	18.8	18.2	17.5	16.8	15.9	15.0	13.9
15	Btu/h	1800	1680	1560	1450	1330	1210	1080	956
	Watts	192	206	218	229	239	248	257	266
	Amps	1.61	1.63	1.66	1.69	1.72	1.74	1.77	1.79
	Lb/h	22.1	21.4	20.8	20.0	19.2	18.4	17.4	16.4
20	Btu/h	2030	1900	1770	1640	1510	1380	1240	1110
	Watts	195	211	225	237	249	260	271	281
	Amps	1.61	1.65	1.68	1.71	1.75	1.78	1.81	1.84
	Lb/h	25.0	24.3	23.5	22.8	21.9	21.1	20.1	19.0
25	Btu/h	2280	2140	1990	1850	1700	1560	1410	1260
	Watts	197	215	230	245	258	271	284	297
	Amps	1.62	1.66	1.70	1.74	1.78	1.81	1.85	1.89
	Lb/h	28.2	27.4	26.6	25.8	24.9	24.0	23.0	21.9
30	Btu/h	2560	2390	2230	2070	1910	1760	1600	1430
	Watts	198	217	235	251	267	282	297	312
	Amps	1.62	1.67	1.71	1.76	1.80	1.85	1.90	1.94
	Lb/h	31.7	30.9	30.0	29.0	28.1	27.1	26.1	25.0
35	Btu/h	2850	2670	2490	2320	2140	1970	1790	1610
	Watts	197	219	238	257	275	292	309	326
	Amps	1.62	1.67	1.72	1.78	1.83	1.88	1.94	1.99
	Lb/h	35.6	34.6	33.6	32.6	31.6	30.6	29.5	28.3
40	Btu/h	3180	2970	2780	2580	2390	2190	2000	1810
	Watts	195	219	240	261	281	301	320	340
	Amps	1.62	1.67	1.73	1.79	1.85	1.92	1.98	2.04
	Lb/h	39.9	38.7	37.6	36.5	35.4	34.3	33.1	31.9
45	Btu/h	3520	3300	3080	2860	2650	2440	2230	2020
	Watts	191	217	241	264	287	309	331	353
	Amps	1.61	1.67	1.74	1.80	1.87	1.94	2.02	2.09

	Lb/h	44.5	43.2	42.0	40.8	39.6	38.4	37.1	35.8
50	Btu/h	3900	3650	3410	3170	2930	2700	2470	2240
	Watts	186	214	240	266	291	315	340	365
	Amps	1.60	1.67	1.74	1.81	1.89	1.97	2.05	2.14
	Lb/h	49.5	48.1	46.8	45.5	44.1	42.8	41.5	40.1
55	Btu/h	4300	4030	3760	3500	3240	2980	2730	2480
	Watts	178	209	238	266	293	321	348	375
	Amps	1.58	1.65	1.73	1.82	1.90	1.99	2.09	2.18
	Lb/h	55.0	53.5	52.0	50.5	49.0	47.6	46.1	44.7

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	1.928278E+03	2.532570E+00	1.392237E+00	1.880613E+01
C2	5.113703E+01	-6.019999E-01	2.285218E-03	5.211228E-01
C3	-1.029907E+01	3.697832E+00	2.172564E-03	-6.391877E-02
C4	5.904360E-01	-2.880453E-02	-7.291210E-05	6.010923E-03
C5	-2.719998E-01	1.849397E-02	-4.223390E-05	-2.113752E-03
C6	2.807410E-02	-2.302746E-02	5.153960E-06	3.855500E-04
C7	1.453934E-03	-1.782540E-04	-6.634750E-07	3.281360E-05
C8	-3.261124E-03	2.181230E-04	7.919600E-07	-2.610590E-05
C9	6.517800E-04	4.565850E-05	5.973030E-07	9.894530E-06
C10	-1.369580E-04	5.281030E-05	-5.814140E-08	-2.518070E-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