Technical Datasheet

10/29/2019

Model: AKA9455ZXA

Product Description

Type: Reciprocating Compressors

Application: CBP - Commercial Back Pressure

Refrigerant: R-404A/R-407A/R-448A/R-449A/R-452A

Voltage/Frequency: 115V ~ 60Hz 100V ~ 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
ARI (R-407A)	115V ~ 60HZ	5517	1391	1617	1096	5.03	1.27	1.48	-6.7°C (20°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-449A)	115V ~ 60HZ	5428	1368	1591	1050	5.17	1.3	1.51	-6.7°C (20°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-452A)	115V ~ 60HZ	5418	1366	1588	1098	4.93	1.24	1.45	-6.7°C (20°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-448A)	115V ~ 60HZ	5428	1368	1591	1050	5.17	1.3	1.51	-6.7°C (20°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-404A)	115V ~ 60HZ	5450	1373	1597	1160	4.7	1.18	1.38	-6.7°C (20°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)

General

Evaporating Temp. Range: -17.8°C to 10°C (0°F to 50°F)

Motor Torque: High Start Torque (HST)

Compressor Cooling: Fan

Mechanical

Weight: 44

Weight Unit of Measure: LB

Displacement (cc): 20.436

Oil Type: Polyolester

Viscosity (cSt): 32

Oil Charge (cc): 512

Electrical

Voltage Range (50 Hz): 90-110

Voltage Range (60 Hz): 103-127

Locked Rotor Amps (LRA): 50

Rated Load Amps (RLA 50 Hz):	0
Rated Load Amps (RLA 60 Hz):	10.1
Max. Continuous Current (MCC in Amps):	17.3
Motor Resistance (Ohm) - Main:	.69
Motor Resistance (Ohm) - Start:	5.95
MotorType:	CSR
Overload Type:	
Relay Type:	

Agency Approval

cURus Recognized

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Performance Data Sheet

AKA9455ZXA

General

Model	AKA9455ZXA	**Unit of Measure**	Fahrenheit
Condition	ARI (R-404A)	**Voltage/Frequency**	115V~60HZ
RETURN GAS	4.4°C (40°F) RETURN GAS	**MotorType**	CSR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)				
		100	**110**	**120**	**130**	**140**
0	Btu/h	4120	3290	2680	2120	1440
	Watts	877	885	871	840	799
	Amps	7.63	7.57	7.53	7.37	6.94
	Lb/h	82.7	75.3	66.4	56.7	47.2
5	Btu/h	4790	3900	3220	2570	1780
	Watts	934	953	952	935	908
	Amps	8.12	8.15	8.20	8.14	7.82
	Lb/h	97.9	90.9	82.1	72.5	62.8
10	Btu/h	5600	4650	3890	3160	2270
	Watts	984	1010	1020	1020	1000
	Amps	8.62	8.73	8.86	8.89	8.68
	Lb/h	114	107	98.9	89.3	79.6
15	Btu/h	6490	5480	4650	3840	2850
	Watts	1030	1070	1090	1090	1090
	Amps	9.11	9.28	9.50	9.62	9.51
	Lb/h	131	125	117	107	97.7
20	Btu/h	7410	6350	5450	4550	3460
	Watts	1080	1120	1150	1170	1170
	Amps	9.56	9.81	10.1	10.3	10.3
	Lb/h	150	144	136	127	117
25	Btu/h	8310	7190	6230	5240	4050
	Watts	1120	1180	1210	1240	1250
	Amps	9.98	10.3	10.6	10.9	11.0
	Lb/h	169	164	156	147	138
30	Btu/h	9130	7960	6930	5860	4570
	Watts	1180	1240	1280	1310	1340
	Amps	10.3	10.7	11.1	11.5	11.6
	Lb/h	190	185	178	170	160

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	6.340316E+04	-1.728420E+03	3.878984E+01	-1.210867E+02
C2	6.825633E+01	-1.285260E+00	2.688657E-02	8.954896E-01
C3	-1.376724E+03	5.982814E+01	-8.389424E-01	6.133322E+00
C4	3.676876E+00	5.581466E-02	1.387812E-03	5.428830E-03
C5	1.963862E+00	3.695987E-02	-1.893267E-04	3.423167E-02
C6	1.075745E+01	-4.361004E-01	7.537229E-03	-5.529470E-02

C7	-7.099667E-02	4.297218E-03	-1.938410E-05	1.060428E-04
C8	1.508617E-03	-2.580047E-03	-1.057428E-05	1.199727E-04
C9	-1.487117E-02	9.833190E-04	9.005096E-06	-1.365791E-04
C10	-2.918069E-02	9.837003E-04	-2.264013E-05	1.433694E-04

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

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Performance Data Sheet

AKA9455ZXA

General

Model	AKA9455ZXA	**Unit of Measure**	Fahrenheit
Condition	ARI (R-448A)	**Voltage/Frequency**	115V~60HZ
RETURN GAS	4.4°C (40°F) RETURN GAS	**MotorType**	CSR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)				
		100	110	120	130	140
0	Btu/h	4110	3280	2670		
	Watts	801	809	796		
	Amps	7.12	7.07	7.03		
	Lb/h	58.8	53.6	47.2		
5	Btu/h	4770	3880	3200	2560	
	Watts	853	871	870	854	
	Amps	7.59	7.61	7.66	7.60	
	Lb/h	69.6	64.6	58.4	51.5	
10	Btu/h	5570	4630	3880	3150	
	Watts	899	926	935	930	
	Amps	8.05	8.15	8.28	8.30	
	Lb/h	81.1	76.3	70.3	63.5	
15	Btu/h	6460	5460	4640	3820	2840
	Watts	941	976	994	1000	998
	Amps	8.50	8.67	8.87	8.98	8.88
	Lb/h	93.3	88.9	83.0	76.3	69.5
20	Btu/h	7380	6320	5430	4530	3440
	Watts	983	1030	1050	1070	1070
	Amps	8.93	9.16	9.43	9.62	9.61
	Lb/h	106	102	96.6	90.1	83.3
25	Btu/h	8270	7160	6200	5220	4030
	Watts	1030	1080	1110	1130	1150
	Amps	9.32	9.61	9.94	10.2	10.3
	Lb/h	120	116	111	105	98.1
30	Btu/h	9100	7930	6900	5830	4550
	Watts	1080	1130	1170	1200	1220
	Amps	9.66	9.99	10.4	10.7	10.9
	Lb/h	135	132	127	121	114

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	6.315763E+04	-1.579449E+03	3.622544E+01	-8.607938E+01
C2	6.799203E+01	-1.174480E+00	2.510964E-02	6.365960E-01
C3	-1.371392E+03	5.467159E+01	-7.834800E-01	4.360121E+00
C4	3.662642E+00	5.100415E-02	1.296056E-03	3.859379E-03
C5	1.956255E+00	3.377425E-02	-1.768159E-04	2.433493E-02
C6	1.071579E+01	-3.985132E-01	7.038944E-03	-3.930847E-02

C7	-7.072184E-02	3.926839E-03	-1.810252E-05	7.538353E-05
C8	1.502816E-03	-2.357672E-03	-9.875233E-06	8.528811E-05
C9	-1.481359E-02	8.985667E-04	8.409797E-06	-9.709276E-05
C10	-2.906768E-02	8.989158E-04	-2.114340E-05	1.019199E-04

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

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Performance Data Sheet

AKA9455ZXA

General

Model	AKA9455ZXA	**Unit of Measure**	Fahrenheit
Condition	ARI (R-449A)	**Voltage/Frequency**	115V~60HZ
RETURN GAS	4.4°C (40°F) RETURN GAS	**MotorType**	CSR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)				
		100	110	120	130	140
0	Btu/h	4110	3280	2670		
	Watts	801	809	796		
	Amps	7.12	7.07	7.03		
	Lb/h	58.8	53.6	47.2		
5	Btu/h	4770	3880	3200	2560	
	Watts	853	871	870	854	
	Amps	7.59	7.61	7.66	7.60	
	Lb/h	69.6	64.6	58.4	51.5	
10	Btu/h	5570	4630	3880	3150	
	Watts	899	926	935	930	
	Amps	8.05	8.15	8.28	8.30	
	Lb/h	81.1	76.3	70.3	63.5	
15	Btu/h	6460	5460	4640	3820	2840
	Watts	941	976	994	1000	998
	Amps	8.50	8.67	8.87	8.98	8.88
	Lb/h	93.3	88.9	83.0	76.3	69.5
20	Btu/h	7380	6320	5430	4530	3440
	Watts	983	1030	1050	1070	1070
	Amps	8.93	9.16	9.43	9.62	9.61
	Lb/h	106	102	96.6	90.1	83.3
25	Btu/h	8270	7160	6200	5220	4030
	Watts	1030	1080	1110	1130	1150
	Amps	9.32	9.61	9.94	10.2	10.3
	Lb/h	120	116	111	105	98.1
30	Btu/h	9100	7930	6900	5830	4550
	Watts	1080	1130	1170	1200	1220
	Amps	9.66	9.99	10.4	10.7	10.9
	Lb/h	135	132	127	121	114

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	6.315763E+04	-1.579449E+03	3.622544E+01	-8.607938E+01
C2	6.799203E+01	-1.174480E+00	2.510964E-02	6.365960E-01
C3	-1.371392E+03	5.467159E+01	-7.834800E-01	4.360121E+00
C4	3.662642E+00	5.100415E-02	1.296056E-03	3.859379E-03
C5	1.956255E+00	3.377425E-02	-1.768159E-04	2.433493E-02
C6	1.071579E+01	-3.985132E-01	7.038944E-03	-3.930847E-02

C7	-7.072184E-02	3.926839E-03	-1.810252E-05	7.538353E-05
C8	1.502816E-03	-2.357672E-03	-9.875233E-06	8.528811E-05
C9	-1.481359E-02	8.985667E-04	8.409797E-06	-9.709276E-05
C10	-2.906768E-02	8.989158E-04	-2.114340E-05	1.019199E-04

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

AKA9455ZXA

General

Model	AKA9455ZXA	**Unit of Measure**	Fahrenheit
Condition	ARI (R-452A)	**Voltage/Frequency**	115V~60HZ
RETURN GAS	4.4°C (40°F) RETURN GAS	**MotorType**	CSR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)				
		100	110	120	130	140
0	Btu/h	4100	3270	2660		
	Watts	838	845	832		
	Amps	7.30	7.25	7.21		
	Lb/h	79.7	72.6	64.0		
5	Btu/h	4760	3880	3200	2550	
	Watts	892	911	909	893	
	Amps	7.78	7.80	7.85	7.79	
	Lb/h	94.3	87.5	79.1	69.8	
10	Btu/h	5560	4620	3870	3140	
	Watts	939	968	977	972	
	Amps	8.25	8.35	8.48	8.51	
	Lb/h	110	103	95.3	86.1	
15	Btu/h	6450	5450	4630	3810	2830
	Watts	984	1020	1040	1040	1040
	Amps	8.72	8.89	9.09	9.21	9.10
	Lb/h	126	120	113	103	94.2
20	Btu/h	7360	6310	5420	4520	3440
	Watts	1030	1070	1100	1110	1120
	Amps	9.16	9.39	9.67	9.87	9.85
	Lb/h	144	139	131	122	113
25	Btu/h	8260	7150	6190	5210	4030
	Watts	1070	1120	1160	1180	1200
	Amps	9.56	9.85	10.2	10.5	10.5
	Lb/h	163	158	151	142	133
30	Btu/h	9080	7920	6890	5820	4540
	Watts	1130	1180	1220	1250	1280
	Amps	9.90	10.2	10.7	11.0	11.1
	Lb/h	183	178	172	163	155

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	6.303809E+04	-1.650822E+03	3.713271E+01	-1.166747E+02
C2	6.786272E+01	-1.227580E+00	2.573842E-02	8.628588E-01
C3	-1.368797E+03	5.714215E+01	-8.031022E-01	5.909838E+00
C4	3.655714E+00	5.330998E-02	1.328508E-03	5.230827E-03
C5	1.952557E+00	3.530033E-02	-1.812368E-04	3.298441E-02
C6	1.069551E+01	-4.165217E-01	7.215233E-03	-5.327991E-02

C7	-7.058790E-02	4.104276E-03	-1.855585E-05	1.021815E-04
C8	1.499892E-03	-2.464211E-03	-1.012255E-05	1.156000E-04
C9	-1.478554E-02	9.391722E-04	8.620387E-06	-1.316025E-04
C10	-2.901267E-02	9.395374E-04	-2.167293E-05	1.381455E-04

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