Technical Datasheet

10/29/2019

Model: AJB2433ZXA

Product Description

Type: Reciprocating Compressors

Application: LBP - Low 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	3170	799	929	899	3.53	.89	1.03	-23°C (-10°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-452A)	115V ~ 60HZ	3504	884	1027	959	3.65	.92	1.07	-23°C (-10°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-448A)	115V ~ 60HZ	3471	875	1017	935	3.71	.94	1.09	-23°C (-10°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-449A)	115V ~ 60HZ	3471	875	1017	935	3.71	.94	1.09	-23°C (-10°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)
ARI (R-404A)	115V ~ 60HZ	3410	859	999	1050	3.25	.82	.95	-23°C (-10°F)	49°C (120°F)	35°C (95°F)	4.4°C (40°F)	49°C (120°F)

General

Evaporating Temp. Range: -40°C to -12.2°C (-40°F to 10°F)

Motor Torque: High Start Torque (HST)

Compressor Cooling: Fan

Mechanical

Weight: 56

Weight Unit of Measure: LB

Displacement (cc): 26.122

Oil Type: Polyolester

Viscosity (cSt): 32

Oil Charge (cc): 782

Electrical

Voltage Range (50 Hz): 90-110

Voltage Range (60 Hz): 103-127

Locked Rotor Amps (LRA): 67

Rated Load Amps (RLA 50 Hz):	0
Rated Load Amps (RLA 60 Hz):	10
Max. Continuous Current (MCC in Amps):	0
Motor Resistance (Ohm) - Main:	.55
Motor Resistance (Ohm) - Start:	2.77
MotorType:	CSR
Overload Type:	
Relay Type:	

Agency Approval

cURus Recognized

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Performance Data Sheet

AJB2433ZXA

General

Model	AJB2433ZXA	**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)					
		90	**100**	**110**	**120**	**130**	**140**
-40	Btu/h	1960	1740	1520			
	Watts	616	596	576			
	Amps	6.59	6.31	6.03			
	Lb/h	34.9	32.8	30.6			
-35	Btu/h	2360	2090	1810	1530		
	Watts	678	664	649	634		
	Amps	7.13	6.91	6.70	6.47		
	Lb/h	42.3	39.6	36.9	34.1		
-30	Btu/h	2820	2480	2140	1800	1470	
	Watts	740	732	724	715	706	
	Amps	7.65	7.50	7.35	7.19	7.03	
	Lb/h	50.4	47.2	44.0	40.8	37.5	
-25	Btu/h	3330	2930	2530	2130	1730	1340
	Watts	803	802	800	797	794	789
	Amps	8.17	8.09	8.00	7.91	7.82	7.71
	Lb/h	59.5	55.8	52.2	48.5	44.7	40.9
-20	Btu/h	3890	3430	2970	2510	2050	1590
	Watts	867	872	876	880	883	885
	Amps	8.69	8.68	8.66	8.63	8.60	8.57
	Lb/h	69.5	65.4	61.3	57.2	53.0	48.8
-15	Btu/h	4500	3980	3460	2930	2410	1890
	Watts	933	944	954	964	973	982
	Amps	9.21	9.27	9.32	9.36	9.40	9.43
	Lb/h	80.6	76.1	71.6	67.0	62.4	57.8
-10	Btu/h	5160	4580	3990	3410	2830	2250
	Watts	1000	1020	1030	1050	1070	1080
	Amps	9.74	9.87	9.98	10.1	10.2	10.3
	Lb/h	92.9	88.0	83.1	78.1	73.1	68.1
-5	Btu/h	5870	5220	4580	3930	3290	2650
	Watts	1070	1090	1110	1140	1160	1180
	Amps	10.3	10.5	10.7	10.9	11.0	11.2
	Lb/h	106	101	95.8	90.5	85.1	79.7
0	Btu/h	6630	5920	5210	4510	3800	3100
	Watts	1140	1170	1200	1230	1250	1280
	Amps	10.8	11.1	11.4	11.6	11.9	12.1

	Lb/h	121	116	110	104	98.5	92.8
5	Btu/h	7440	6670	5900	5130	4360	3600
	Watts	1210	1250	1280	1320	1350	1390
	Amps	11.4	11.8	12.1	12.4	12.8	13.1
	Lb/h	137	131	125	119	113	107
10	Btu/h	8290	7460	6630	5800	4970	4140
	Watts	1280	1330	1370	1410	1450	1490
	Amps	12.0	12.4	12.9	13.3	13.7	14.1
	Lb/h	155	149	142	136	130	123

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	1.301184E+04	8.595654E+02	8.364247E+00	1.712225E+02
C2	2.672481E+02	2.739104E+00	-1.651093E-02	3.727738E+00
C3	-7.086896E+01	3.061967E+00	2.741667E-02	-5.551110E-01
C4	1.002194E+00	2.930831E-02	1.865549E-04	2.371548E-02
C5	-1.226137E+00	1.267060E-01	1.432880E-03	-7.205807E-03
C6	-2.508366E-03	1.649424E-03	9.646250E-06	3.492660E-05
C7	-5.016470E-04	2.009327E-04	6.183656E-06	1.076042E-04
C8	-2.932339E-04	8.057186E-05	2.769748E-06	4.526284E-05
C9	-3.631257E-05	6.660319E-06	1.777427E-07	1.992180E-06
C10	2.154819E-05	-1.391930E-05	-9.196754E-08	-5.161963E-07

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

AJB2433ZXA

General

Model	AJB2433ZXA	**Unit of Measure**	Fahrenheit
Condition	ARI (R-407A)	**Voltage/Frequency**	115V~60HZ
RETURN GAS	4.4°C (40°F) RETURN GAS	**MotorType**	CSR

Performance Information

EVAP TEMP (°F)		Condensing Temperature (°F)					
		90	100	110	120	130	140
-40	Btu/h	1820	1620				
	Watts	528	511				
	Amps	6.01	5.76				
	Lb/h	23.0	21.6				
-35	Btu/h	2200	1940	1680			
	Watts	580	568	556			
	Amps	6.50	6.31	6.11			
	Lb/h	27.8	26.0	24.3			
-30	Btu/h	2620	2310	1990	1680		
	Watts	634	627	620	612		
	Amps	6.98	6.84	6.71	6.56		
	Lb/h	33.2	31.1	29.0	26.8		
-25	Btu/h	3100	2720	2350	1980	1610	
	Watts	688	686	685	682	679	
	Amps	7.45	7.38	7.30	7.22	7.13	
	Lb/h	39.1	36.7	34.3	31.9	29.4	
-20	Btu/h	3620	3190	2760	2330	1900	
	Watts	743	747	750	753	756	
	Amps	7.93	7.91	7.90	7.87	7.85	
	Lb/h	45.8	43.1	40.4	37.6	34.9	
-15	Btu/h	4180	3700	3210	2730	2240	
	Watts	799	808	817	826	833	
	Amps	8.40	8.45	8.50	8.54	8.57	
	Lb/h	53.1	50.1	47.1	44.1	41.1	
-10	Btu/h	4800	4250	3710	3170	2630	2090
	Watts	856	871	885	899	912	925
	Amps	8.88	9.00	9.11	9.21	9.31	9.41
	Lb/h	61.1	57.9	54.7	51.4	48.1	44.8
-5	Btu/h	5460	4860	4260	3660	3060	2460
	Watts	915	935	955	974	993	1010
	Amps	9.38	9.56	9.73	9.90	10.1	10.2
	Lb/h	70.0	66.5	63.1	59.5	56.0	52.5
0	Btu/h	6160	5500	4850	4190	3540	2880
	Watts	975	1000	1030	1050	1070	1100
	Amps	9.89	10.1	10.4	10.6	10.8	11.1

	Lb/h	79.7	76.0	72.3	68.6	64.8	61.1
5	Btu/h	6910	6200	5480	4770	4060	3340
	Watts	1040	1070	1100	1130	1160	1190
	Amps	10.4	10.7	11.0	11.3	11.6	11.9
	Lb/h	90.4	86.5	82.5	78.6	74.6	70.6
10	Btu/h	7710	6940	6160	5390	4620	3850
	Watts	1100	1140	1170	1210	1240	1280
	Amps	11.0	11.4	11.7	12.1	12.5	12.8
	Lb/h	102	97.9	93.8	89.6	85.4	81.3

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	1.209498E+04	7.359965E+02	7.628720E+00	1.126916E+02
C2	2.484169E+02	2.345338E+00	-1.505901E-02	2.453444E+00
C3	-6.587529E+01	2.621787E+00	2.500573E-02	-3.653512E-01
C4	9.315759E-01	2.509502E-02	1.701498E-04	1.560855E-02
C5	-1.139739E+00	1.084911E-01	1.306877E-03	-4.742566E-03
C6	-2.331618E-03	1.412307E-03	8.797987E-06	2.298725E-05
C7	-4.662992E-04	1.720471E-04	5.639883E-06	7.082066E-05
C8	-2.725716E-04	6.898906E-05	2.526184E-06	2.979014E-05
C9	-3.375386E-05	5.702849E-06	1.621125E-07	1.311171E-06
C10	2.002983E-05	-1.191830E-05	-8.388018E-08	-3.397392E-07

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

AJB2433ZXA

General

Model	AJB2433ZXA	**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)					
		90	**100**	**110**	**120**	**130**	**140**
-40	Btu/h	1990	1770				
	Watts	549	531				
	Amps	6.28	6.02				
	Lb/h	25.1	23.6				
-35	Btu/h	2410	2120	1840			
	Watts	604	591	578			
	Amps	6.80	6.59	6.39			
	Lb/h	30.4	28.5	26.5			
-30	Btu/h	2870	2530	2180	1840		
	Watts	659	652	645	637		
	Amps	7.30	7.16	7.01	6.86		
	Lb/h	36.3	34.0	31.7	29.4		
-25	Btu/h	3390	2980	2580	2170	1760	
	Watts	715	714	712	710	707	
	Amps	7.79	7.72	7.63	7.55	7.45	
	Lb/h	42.8	40.2	37.5	34.9	32.2	
-20	Btu/h	3960	3490	3020	2550	2090	
	Watts	773	777	780	784	786	
	Amps	8.29	8.27	8.26	8.23	8.21	
	Lb/h	50.0	47.1	44.1	41.1	38.1	
-15	Btu/h	4580	4050	3520	2990	2460	
	Watts	831	841	850	859	867	
	Amps	8.79	8.84	8.89	8.93	8.97	
	Lb/h	58.0	54.8	51.5	48.2	44.9	
-10	Btu/h	5250	4660	4060	3470	2880	2290
	Watts	890	906	921	935	949	962
	Amps	9.29	9.41	9.52	9.63	9.74	9.84
	Lb/h	66.8	63.3	59.8	56.2	52.6	49.0
-5	Btu/h	5970	5320	4660	4000	3350	2700
	Watts	951	972	993	1010	1030	1050
	Amps	9.81	9.99	10.2	10.4	10.5	10.7
	Lb/h	76.5	72.8	68.9	65.1	61.3	57.4
0	Btu/h	6750	6030	5310	4590	3870	3160
	Watts	1010	1040	1070	1090	1120	1140
	Amps	10.3	10.6	10.8	11.1	11.3	11.6
	Lb/h						

	Lb/h	87.2	83.1	79.1	75.0	70.9	66.8
5	Btu/h	7570	6790	6000	5220	4440	3660
	Watts	1080	1110	1140	1170	1200	1230
	Amps	10.9	11.2	11.5	11.9	12.2	12.5
	Lb/h	98.8	94.6	90.3	85.9	81.6	77.2
10	Btu/h	8440	7590	6750	5900	5060	4220
	Watts	1140	1180	1220	1260	1290	1330
	Amps	11.5	11.9	12.3	12.7	13.0	13.4
	Lb/h	112	107	103	98.0	93.4	88.8

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	1.324321E+04	7.655156E+02	7.978205E+00	1.232131E+02
C2	2.720002E+02	2.439404E+00	-1.574889E-02	2.682510E+00
C3	-7.212912E+01	2.726940E+00	2.615129E-02	-3.994622E-01
C4	1.020015E+00	2.610153E-02	1.779447E-04	1.706585E-02
C5	-1.247940E+00	1.128424E-01	1.366747E-03	-5.185355E-03
C6	-2.552969E-03	1.468951E-03	9.201038E-06	2.513346E-05
C7	-5.105671E-04	1.789475E-04	5.898256E-06	7.743283E-05
C8	-2.984480E-04	7.175605E-05	2.641913E-06	3.257149E-05
C9	-3.695826E-05	5.931577E-06	1.695392E-07	1.433588E-06
C10	2.193135E-05	-1.239631E-05	-8.772288E-08	-3.714589E-07

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

AJB2433ZXA

General

Model	AJB2433ZXA	**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)					
		90	100	110	120	130	140
-40	Btu/h	1990	1770				
	Watts	549	531				
	Amps	6.28	6.02				
	Lb/h	25.1	23.6				
-35	Btu/h	2410	2120	1840			
	Watts	604	591	578			
	Amps	6.80	6.59	6.39			
	Lb/h	30.4	28.5	26.5			
-30	Btu/h	2870	2530	2180	1840		
	Watts	659	652	645	637		
	Amps	7.30	7.16	7.01	6.86		
	Lb/h	36.3	34.0	31.7	29.4		
-25	Btu/h	3390	2980	2580	2170	1760	
	Watts	715	714	712	710	707	
	Amps	7.79	7.72	7.63	7.55	7.45	
	Lb/h	42.8	40.2	37.5	34.9	32.2	
-20	Btu/h	3960	3490	3020	2550	2090	
	Watts	773	777	780	784	786	
	Amps	8.29	8.27	8.26	8.23	8.21	
	Lb/h	50.0	47.1	44.1	41.1	38.1	
-15	Btu/h	4580	4050	3520	2990	2460	
	Watts	831	841	850	859	867	
	Amps	8.79	8.84	8.89	8.93	8.97	
	Lb/h	58.0	54.8	51.5	48.2	44.9	
-10	Btu/h	5250	4660	4060	3470	2880	2290
	Watts	890	906	921	935	949	962
	Amps	9.29	9.41	9.52	9.63	9.74	9.84
	Lb/h	66.8	63.3	59.8	56.2	52.6	49.0
-5	Btu/h	5970	5320	4660	4000	3350	2700
	Watts	951	972	993	1010	1030	1050
	Amps	9.81	9.99	10.2	10.4	10.5	10.7
	Lb/h	76.5	72.8	68.9	65.1	61.3	57.4
0	Btu/h	6750	6030	5310	4590	3870	3160
	Watts	1010	1040	1070	1090	1120	1140
	Amps	10.3	10.6	10.8	11.1	11.3	11.6
	Lb/h						

	Lb/h	87.2	83.1	79.1	75.0	70.9	66.8
5	Btu/h	7570	6790	6000	5220	4440	3660
	Watts	1080	1110	1140	1170	1200	1230
	Amps	10.9	11.2	11.5	11.9	12.2	12.5
	Lb/h	98.8	94.6	90.3	85.9	81.6	77.2
10	Btu/h	8440	7590	6750	5900	5060	4220
	Watts	1140	1180	1220	1260	1290	1330
	Amps	11.5	11.9	12.3	12.7	13.0	13.4
	Lb/h	112	107	103	98.0	93.4	88.8

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	1.324321E+04	7.655156E+02	7.978205E+00	1.232131E+02
C2	2.720002E+02	2.439404E+00	-1.574889E-02	2.682510E+00
C3	-7.212912E+01	2.726940E+00	2.615129E-02	-3.994622E-01
C4	1.020015E+00	2.610153E-02	1.779447E-04	1.706585E-02
C5	-1.247940E+00	1.128424E-01	1.366747E-03	-5.185355E-03
C6	-2.552969E-03	1.468951E-03	9.201038E-06	2.513346E-05
C7	-5.105671E-04	1.789475E-04	5.898256E-06	7.743283E-05
C8	-2.984480E-04	7.175605E-05	2.641913E-06	3.257149E-05
C9	-3.695826E-05	5.931577E-06	1.695392E-07	1.433588E-06
C10	2.193135E-05	-1.239631E-05	-8.772288E-08	-3.714589E-07

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

AJB2433ZXA

General

Model	AJB2433ZXA	**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)					
		90	**100**	**110**	**120**	**130**	**140**
-40	Btu/h	2010	1790				
	Watts	563	545				
	Amps	6.24	5.98				
	Lb/h	31.0	29.1				
-35	Btu/h	2430	2140	1860			
	Watts	619	606	593			
	Amps	6.75	6.55	6.34			
	Lb/h	37.5	35.1	32.7			
-30	Btu/h	2900	2550	2200	1850		
	Watts	676	669	661	653		
	Amps	7.25	7.11	6.96	6.81		
	Lb/h	44.7	41.9	39.1	36.2		
-25	Btu/h	3420	3010	2600	2190	1780	
	Watts	734	732	731	728	725	
	Amps	7.74	7.66	7.58	7.49	7.40	
	Lb/h	52.8	49.6	46.3	43.0	39.7	
-20	Btu/h	4000	3520	3050	2580	2110	
	Watts	793	797	801	804	806	
	Amps	8.23	8.22	8.20	8.18	8.15	
	Lb/h	61.7	58.1	54.4	50.8	47.0	
-15	Btu/h	4630	4090	3550	3020	2480	
	Watts	852	862	872	881	889	
	Amps	8.72	8.78	8.82	8.86	8.90	
	Lb/h	71.6	67.6	63.6	59.5	55.4	
-10	Btu/h	5300	4700	4100	3500	2910	2310
	Watts	913	929	945	959	973	987
	Amps	9.23	9.34	9.46	9.57	9.67	9.77
	Lb/h	82.5	78.1	73.7	69.3	64.9	60.4
-5	Btu/h	6030	5370	4710	4040	3380	2720
	Watts	976	998	1020	1040	1060	1080
	Amps	9.74	9.92	10.1	10.3	10.5	10.6
	Lb/h	94.4	89.7	85.0	80.3	75.6	70.8
0	Btu/h	6810	6080	5360	4630	3910	3190
	Watts	1040	1070	1090	1120	1150	1170
	Amps	10.3	10.5	10.8	11.0	11.3	11.5

	Lb/h	108	103	97.5	92.5	87.4	82.4
5	Btu/h	7640	6850	6060	5270	4480	3700
	Watts	1110	1140	1170	1200	1240	1270
	Amps	10.8	11.1	11.5	11.8	12.1	12.4
	Lb/h	122	117	111	106	101	95.3
10	Btu/h	8520	7670	6810	5960	5110	4260
	Watts	1170	1210	1250	1290	1330	1360
	Amps	11.4	11.8	12.2	12.6	13.0	13.3
	Lb/h	138	132	126	121	115	110

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	1.337108E+04	7.853067E+02	7.921547E+00	1.519843E+02
C2	2.746265E+02	2.502470E+00	-1.563704E-02	3.308896E+00
C3	-7.282556E+01	2.797441E+00	2.596557E-02	-4.927398E-01
C4	1.029863E+00	2.677634E-02	1.766810E-04	2.105085E-02
C5	-1.259989E+00	1.157597E-01	1.357041E-03	-6.396176E-03
C6	-2.577619E-03	1.506929E-03	9.135696E-06	3.100231E-05
C7	-5.154968E-04	1.835739E-04	5.856369E-06	9.551400E-05
C8	-3.013297E-04	7.361118E-05	2.623152E-06	4.017719E-05
C9	-3.731511E-05	6.084928E-06	1.683352E-07	1.768342E-06
C10	2.214311E-05	-1.271680E-05	-8.709991E-08	-4.581975E-07

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