

COMPRESSOR DEFINITION

Designation	FMX A9C
Nominal Voltage/Frequency	230 V 43 -134 Hz
Engineering Number	513908231

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 43 -134	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Fullmotion Compressors)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	BPM		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/7	[hp]
2 Displacement	8.74	[cm ³] (0.533 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	22.000	
3 Lubricant charge	175	[ml] (5.92 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	4.8	[kg] (10.58 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 43-134 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF02E01 M 0.0 X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER FMX CF02E01	
6 Start winding resistance	20.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	20.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (43 /134 Hz)	1.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (43 /134 Hz)	1.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (43 /134 Hz)	1.70	[A] - Measured according to UL 984
11 Approval boards certification	CCC	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V1300RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
212	53	62	37	0.31	0.67	5.81	1.46	1.70	

TEST CONDITIONS: @220V2000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
334	84	98	54	0.44	1.05	6.14	1.55	1.80	

TEST CONDITIONS: @220V3000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
495	125	145	82	0.65	1.55	6.07	1.53	1.78	

TEST CONDITIONS: @220V4000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
614	155	180	106	0.80	1.93	5.80	1.46	1.70	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1300RPM		ASHRAE32 Static					(Condensing temperature 35°C (+95°F))			
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	130	33	38	22	0.21	0.41	6.04	1.52	1.77
-30	(-22)	179	45	52	26	0.24	0.56	6.76	1.70	1.98
-25	(-13)	234	59	69	31	0.26	0.73	7.65	1.93	2.24
-20	(- 4)	300	76	88	34	0.30	0.94	8.75	2.20	2.56
-15	(+ 5)	379	96	111	38	0.33	1.19	10.07	2.54	2.95
-10	(+14)	476	120	139	41	0.35	1.50	11.64	2.93	3.41
-5	(+23)	593	150	174	44	0.38	1.88	13.48	3.40	3.95
0	(+32)	735	185	216	47	0.39	2.33	15.62	3.94	4.58

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1300RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	117	30	34	22	0.22	0.37	5.30	1.34	1.55
-30	(-22)	165	42	48	28	0.25	0.52	5.88	1.48	1.72
-25	(-13)	219	55	64	33	0.28	0.69	6.57	1.65	1.92
-20	(- 4)	282	71	83	38	0.32	0.89	7.38	1.86	2.16
-15	(+ 5)	358	90	105	43	0.36	1.13	8.36	2.11	2.45
-10	(+14)	449	113	132	47	0.41	1.42	9.51	2.40	2.79
-5	(+23)	561	141	164	52	0.44	1.78	10.86	2.74	3.18
0	(+32)	697	176	204	56	0.47	2.21	12.43	3.13	3.64

TEST CONDITIONS: @220V1300RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	102	26	30	22	0.22	0.32	4.55	1.15	1.33
-30	(-22)	149	38	44	29	0.25	0.47	5.07	1.28	1.49
-25	(-13)	201	51	59	36	0.29	0.63	5.63	1.42	1.65
-20	(- 4)	260	66	76	42	0.34	0.82	6.25	1.57	1.83
-15	(+ 5)	332	84	97	48	0.39	1.04	6.95	1.75	2.04
-10	(+14)	418	105	122	54	0.44	1.32	7.76	1.96	2.27
-5	(+23)	523	132	153	60	0.49	1.66	8.70	2.19	2.55
0	(+32)	651	164	191	66	0.54	2.06	9.79	2.47	2.87

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	205	52	60	34	0.31	0.64	6.02	1.52	1.77
-30	(-22)	271	68	80	40	0.34	0.85	6.81	1.72	2.00
-25	(-13)	355	89	104	46	0.38	1.11	7.74	1.95	2.27
-20	(- 4)	458	115	134	52	0.43	1.44	8.83	2.22	2.59
-15	(+ 5)	583	147	171	58	0.47	1.83	10.08	2.54	2.95
-10	(+14)	731	184	214	63	0.52	2.31	11.52	2.90	3.38
-5	(+23)	906	228	266	69	0.55	2.87	13.15	3.31	3.85
0	(+32)	1110	280	325	74	0.58	3.52	15.00	3.78	4.39

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	183	46	54	35	0.31	0.57	5.27	1.33	1.55
-30	(-22)	250	63	73	42	0.35	0.78	5.98	1.51	1.75
-25	(-13)	333	84	98	49	0.40	1.04	6.77	1.71	1.98
-20	(- 4)	435	110	127	57	0.46	1.37	7.66	1.93	2.24
-15	(+ 5)	557	140	163	64	0.52	1.75	8.65	2.18	2.53
-10	(+14)	702	177	206	72	0.58	2.21	9.77	2.46	2.86
-5	(+23)	872	220	256	79	0.63	2.76	11.02	2.78	3.23
0	(+32)	1070	270	314	87	0.67	3.39	12.42	3.13	3.64

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	161	41	47	34	0.30	0.50	4.70	1.18	1.38
-30	(-22)	227	57	67	42	0.36	0.71	5.37	1.35	1.57
-25	(-13)	308	78	90	51	0.42	0.97	6.06	1.53	1.77
-20	(- 4)	406	102	119	60	0.49	1.28	6.78	1.71	1.99
-15	(+ 5)	524	132	154	70	0.56	1.65	7.55	1.90	2.21
-10	(+14)	664	167	195	79	0.63	2.10	8.39	2.11	2.46
-5	(+23)	828	209	243	89	0.70	2.62	9.30	2.34	2.72
0	(+32)	1019	257	298	99	0.75	3.23	10.30	2.59	3.02

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	297	75	87	50	0.42	0.93	5.93	1.49	1.74
-30	(-22)	407	103	119	61	0.49	1.28	6.67	1.68	1.95
-25	(-13)	534	135	156	71	0.56	1.68	7.49	1.89	2.19
-20	(- 4)	685	173	201	82	0.64	2.15	8.41	2.12	2.47
-15	(+ 5)	867	218	254	92	0.72	2.73	9.48	2.39	2.78
-10	(+14)	1087	274	319	101	0.80	3.43	10.71	2.70	3.14
-5	(+23)	1353	341	397	111	0.87	4.28	12.13	3.06	3.55
0	(+32)	1672	421	490	122	0.94	5.30	13.77	3.47	4.03

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	275	69	81	51	0.43	0.86	5.37	1.35	1.57
-30	(-22)	382	96	112	64	0.51	1.20	6.00	1.51	1.76
-25	(-13)	506	128	148	76	0.60	1.59	6.69	1.68	1.96
-20	(- 4)	653	165	191	87	0.69	2.05	7.46	1.88	2.19
-15	(+ 5)	832	210	244	99	0.78	2.62	8.35	2.11	2.45
-10	(+14)	1048	264	307	111	0.88	3.31	9.39	2.37	2.75
-5	(+23)	1310	330	384	124	0.97	4.14	10.60	2.67	3.10
0	(+32)	1624	409	476	137	1.06	5.15	12.00	3.02	3.52

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	250	63	73	51	0.41	0.78	4.95	1.25	1.45
-30	(-22)	351	88	103	64	0.50	1.10	5.47	1.38	1.60
-25	(-13)	468	118	137	78	0.60	1.47	6.03	1.52	1.77
-20	(- 4)	608	153	178	91	0.71	1.91	6.66	1.68	1.95
-15	(+ 5)	779	196	228	105	0.82	2.45	7.38	1.86	2.16
-10	(+14)	987	249	289	120	0.93	3.12	8.22	2.07	2.41
-5	(+23)	1241	313	364	135	1.05	3.93	9.21	2.32	2.70
0	(+32)	1547	390	453	150	1.16	4.90	10.37	2.61	3.04

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	341	86	100	62	0.50	1.07	5.52	1.39	1.62
-30	(-22)	485	122	142	78	0.59	1.52	6.23	1.57	1.83
-25	(-13)	675	170	198	95	0.72	2.12	7.08	1.78	2.07
-20	(- 4)	901	227	264	112	0.86	2.83	8.03	2.02	2.35
-15	(+ 5)	1154	291	338	128	1.00	3.63	9.04	2.28	2.65
-10	(+14)	1425	359	417	142	1.12	4.49	10.08	2.54	2.95
-5	(+23)	1704	429	499	153	1.18	5.39	11.11	2.80	3.25
0	(+32)	1983	500	581	160	1.17	6.29	12.09	3.05	3.54

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	326	82	95	66	0.53	1.02	4.96	1.25	1.45
-30	(-22)	453	114	133	82	0.61	1.42	5.54	1.40	1.62
-25	(-13)	627	158	184	100	0.74	1.97	6.25	1.58	1.83
-20	(- 4)	838	211	246	118	0.90	2.63	7.07	1.78	2.07
-15	(+ 5)	1079	272	316	136	1.05	3.39	7.95	2.00	2.33
-10	(+14)	1338	337	392	152	1.18	4.22	8.86	2.23	2.60
-5	(+23)	1608	405	471	165	1.26	5.08	9.77	2.46	2.86
0	(+32)	1879	474	551	174	1.27	5.96	10.63	2.68	3.11

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	299	75	88	70	0.57	0.94	4.30	1.08	1.26
-30	(-22)	413	104	121	87	0.65	1.29	4.82	1.22	1.41
-25	(-13)	575	145	169	105	0.78	1.81	5.49	1.38	1.61
-20	(- 4)	777	196	228	124	0.94	2.44	6.25	1.58	1.83
-15	(+ 5)	1010	254	296	142	1.10	3.18	7.09	1.79	2.08
-10	(+14)	1263	318	370	159	1.24	3.98	7.95	2.00	2.33
-5	(+23)	1528	385	448	174	1.34	4.83	8.80	2.22	2.58
0	(+32)	1795	452	526	185	1.38	5.69	9.62	2.42	2.82

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal FMX
2 Tray holder	No
3 Connectors	
3.1 SUCTION	6.5 +0.12/-0.08 [mm] (0.256" +0.005"/-0.003")
3.1.1 Material	Copper
3.1.2 Shape	Slanted 45° up + 11° to Back
3.2 DISCHARGE	4.9 +0.10/-0.05 [mm] (0.193" +0.004"/-0.002")
3.2.1 Material	Copper
3.2.2 Shape	Slanted 45° up + 37° to Back
3.3 PROCESS	6.5 +0.12/-0.08 [mm] (0.256" +0.005"/-0.003")
3.3.1 Material	Copper
3.3.2 Shape	Slanted 45° up + 57° to Back
3.4 Oil cooler (Copper)	No [mm]
3.5 Connector sealing	Rubber Plugs