

COMPRESSOR DEFINITION

Designation	FMX C9C
Nominal Voltage/Frequency	230 V 43 -134 Hz
Engineering Number	513908233

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	1/6	[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)	4.9	[kg] (10.80 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	17.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	17.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (43 /134 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (43 /134 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (43 /134 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

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]
213	54	62	35	0.28	0.67	6.02	1.52	1.76

TEST CONDITIONS: @220V1600RPM			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]
269	68	79	43	0.32	0.84	6.33	1.60	1.85

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]
342	86	100	54	0.40	1.07	6.37	1.61	1.87

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]
514	130	151	81		1.61	6.35	1.60	1.86

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]
632	159	185	106	0.91	1.98	5.97	1.50	1.75

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]	[W/W]
-35 (-31)	131	33	38	21	0.23	0.41	6.18	1.56	1.81	
-30 (-22)	176	44	51	25	0.24	0.55	7.03	1.77	2.06	
-25 (-13)	230	58	67	29	0.26	0.72	8.01	2.02	2.35	
-20 (- 4)	297	75	87	32	0.29	0.93	9.16	2.31	2.68	
-15 (+ 5)	380	96	111	36	0.31	1.19	10.50	2.65	3.08	
-10 (+14)	480	121	141	40	0.33	1.51	12.06	3.04	3.53	
-5 (+23)	600	151	176	43	0.34	1.90	13.89	3.50	4.07	
0 (+32)	744	187	218	46	0.33	2.36	16.01	4.03	4.69	

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)	116	29	34	22	0.23	0.36	5.35	1.35	1.57	
-30 (-22)	160	40	47	26	0.24	0.50	6.08	1.53	1.78	
-25 (-13)	214	54	63	31	0.27	0.67	6.88	1.73	2.02	
-20 (- 4)	280	71	82	36	0.30	0.88	7.78	1.96	2.28	
-15 (+ 5)	361	91	106	41	0.34	1.14	8.82	2.22	2.59	
-10 (+14)	460	116	135	46	0.37	1.45	10.03	2.53	2.94	
-5 (+23)	579	146	170	51	0.40	1.83	11.44	2.88	3.35	
0 (+32)	720	181	211	55	0.42	2.28	13.09	3.30	3.84	

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)	94	24	28	22	0.23	0.29	4.33	1.09	1.27	
-30 (-22)	138	35	41	27	0.24	0.43	5.03	1.27	1.48	
-25 (-13)	192	48	56	33	0.27	0.60	5.75	1.45	1.68	
-20 (- 4)	258	65	75	40	0.31	0.81	6.51	1.64	1.91	
-15 (+ 5)	338	85	99	46	0.36	1.06	7.35	1.85	2.15	
-10 (+14)	436	110	128	52	0.42	1.37	8.30	2.09	2.43	
-5 (+23)	553	139	162	59	0.47	1.75	9.39	2.37	2.75	
0 (+32)	693	175	203	65	0.52	2.20	10.66	2.69	3.12	

E - PERFORMANCE - CURVES

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)	204	51	60	33	0.29	0.64	6.15	1.55	1.80	
-30 (-22)	272	68	80	39	0.30	0.85	7.02	1.77	2.06	
-25 (-13)	355	89	104	44	0.34	1.11	8.01	2.02	2.35	
-20 (- 4)	457	115	134	50	0.39	1.43	9.13	2.30	2.68	
-15 (+ 5)	580	146	170	56	0.45	1.83	10.40	2.62	3.05	
-10 (+14)	728	183	213	62	0.51	2.30	11.81	2.98	3.46	
-5 (+23)	904	228	265	68	0.57	2.86	13.39	3.37	3.92	
0 (+32)	1111	280	325	73	0.62	3.52	15.12	3.81	4.43	

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)	182	46	53	34	0.30	0.57	5.40	1.36	1.58	
-30 (-22)	251	63	73	41	0.32	0.79	6.13	1.55	1.80	
-25 (-13)	334	84	98	48	0.36	1.05	6.96	1.75	2.04	
-20 (- 4)	435	110	128	55	0.42	1.37	7.89	1.99	2.31	
-15 (+ 5)	557	140	163	62	0.50	1.75	8.92	2.25	2.61	
-10 (+14)	703	177	206	70	0.58	2.22	10.08	2.54	2.95	
-5 (+23)	876	221	257	77	0.67	2.77	11.35	2.86	3.33	
0 (+32)	1078	272	316	85	0.75	3.42	12.75	3.21	3.74	

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)	162	41	47	34	0.30	0.51	4.76	1.20	1.39	
-30 (-22)	229	58	67	42	0.32	0.72	5.39	1.36	1.58	
-25 (-13)	309	78	91	51	0.38	0.97	6.09	1.53	1.78	
-20 (- 4)	406	102	119	59	0.46	1.28	6.85	1.73	2.01	
-15 (+ 5)	524	132	153	68	0.55	1.65	7.68	1.94	2.25	
-10 (+14)	664	167	195	77	0.66	2.09	8.60	2.17	2.52	
-5 (+23)	830	209	243	86	0.77	2.63	9.61	2.42	2.82	
0 (+32)	1025	258	300	96	0.88	3.25	10.71	2.70	3.14	

E - PERFORMANCE - CURVES

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]
-35	(-31)	289	73	85	50	0.39	0.90	5.75	1.45	1.69
-30	(-22)	400	101	117	59	0.47	1.25	6.79	1.71	1.99
-25	(-13)	544	137	159	68	0.57	1.71	7.95	2.00	2.33
-20	(- 4)	717	181	210	78	0.68	2.25	9.15	2.31	2.68
-15	(+ 5)	915	231	268	89	0.78	2.88	10.33	2.60	3.03
-10	(+14)	1134	286	332	99	0.87	3.58	11.44	2.88	3.35
-5	(+23)	1368	345	401	110	0.93	4.32	12.40	3.12	3.63
0	(+32)	1613	407	473	122	0.96	5.11	13.14	3.31	3.85

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]
-35	(-31)	261	66	77	51	0.41	0.82	5.09	1.28	1.49
-30	(-22)	363	91	106	62	0.51	1.14	5.89	1.49	1.73
-25	(-13)	498	126	146	73	0.62	1.56	6.83	1.72	2.00
-20	(- 4)	663	167	194	85	0.74	2.08	7.84	1.98	2.30
-15	(+ 5)	854	215	250	97	0.86	2.69	8.85	2.23	2.59
-10	(+14)	1065	268	312	109	0.96	3.36	9.80	2.47	2.87
-5	(+23)	1292	326	379	122	1.03	4.09	10.62	2.68	3.11
0	(+32)	1532	386	449	135	1.06	4.86	11.24	2.83	3.30

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]
-35	(-31)	234	59	69	52	0.41	0.73	4.49	1.13	1.32
-30	(-22)	330	83	97	65	0.53	1.04	5.14	1.29	1.50
-25	(-13)	461	116	135	78	0.67	1.45	5.94	1.50	1.74
-20	(- 4)	622	157	182	91	0.81	1.96	6.82	1.72	2.00
-15	(+ 5)	809	204	237	105	0.94	2.55	7.73	1.95	2.27
-10	(+14)	1017	256	298	119	1.06	3.21	8.60	2.17	2.52
-5	(+23)	1242	313	364	133	1.14	3.93	9.36	2.36	2.74
0	(+32)	1479	373	433	147	1.18	4.69	9.94	2.51	2.91

E - PERFORMANCE - CURVES

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]
-35	(-31)	363	91	106	64	0.50	1.14	5.69	1.43	1.67
-30	(-22)	504	127	148	77	0.62	1.58	6.48	1.63	1.90
-25	(-13)	690	174	202	94	0.78	2.16	7.26	1.83	2.13
-20	(- 4)	913	230	267	113	0.95	2.87	8.09	2.04	2.37
-15	(+ 5)	1165	294	341	130	1.11	3.67	9.02	2.27	2.64
-10	(+14)	1439	363	422	144	1.23	4.54	10.09	2.54	2.96
-5	(+23)	1728	435	506	152	1.29	5.46	11.37	2.86	3.33
0	(+32)	2023	510	593	152	1.27	6.41	12.90	3.25	3.78

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]
-35	(-31)	345	87	101	65	0.50	1.08	5.29	1.33	1.55
-30	(-22)	463	117	136	78	0.64	1.45	5.95	1.50	1.74
-25	(-13)	630	159	185	96	0.82	1.98	6.59	1.66	1.93
-20	(- 4)	839	211	246	116	1.00	2.64	7.25	1.83	2.12
-15	(+ 5)	1083	273	317	136	1.17	3.41	7.99	2.01	2.34
-10	(+14)	1354	341	397	153	1.30	4.27	8.87	2.23	2.60
-5	(+23)	1644	414	482	165	1.37	5.20	9.93	2.50	2.91
0	(+32)	1945	490	570	171	1.36	6.17	11.23	2.83	3.29

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]
-35	(-31)	298	75	87	66	0.54	0.93	4.47	1.13	1.31
-30	(-22)	404	102	118	80	0.68	1.27	5.13	1.29	1.50
-25	(-13)	564	142	165	99	0.86	1.77	5.74	1.45	1.68
-20	(- 4)	772	195	226	121	1.04	2.43	6.37	1.60	1.87
-15	(+ 5)	1020	257	299	144	1.21	3.21	7.06	1.78	2.07
-10	(+14)	1299	327	381	165	1.34	4.10	7.86	1.98	2.30
-5	(+23)	1602	404	469	182	1.41	5.07	8.83	2.23	2.59
0	(+32)	1922	484	563	193	1.39	6.10	10.03	2.53	2.94

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	Straight		
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 parallel to Base Plate		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		