

COMPRESSOR DEFINITION

Designation	FMX D4C
Nominal Voltage/Frequency	230 V 43 -134 Hz
Engineering Number	513908289

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	1/16	[hp]
2 Displacement	3.97	[cm ³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
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)	5.06	[kg] (11.16 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	PFC CF02D02 M	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	PFC CF02D02 M	
6 Start winding resistance	13.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.00	[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	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]	
72	18	21	14	0.14	0.23	5.29	1.33	1.55	

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]	
123	31	36	21	0.18	0.39	5.80	1.46	1.70	

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]	
174	44	51	31	0.24	0.55	5.63	1.42	1.65	

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]	
256	65	75	46	0.33	0.80	5.60	1.41	1.64	

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)	50	13	15	9	0.16	0.16	5.62	1.42	1.65
-30	(-22)	71	18	21	11	0.17	0.22	6.76	1.70	1.98
-25	(-13)	96	24	28	12	0.17	0.30	7.96	2.01	2.33
-20	(- 4)	127	32	37	14	0.17	0.40	9.31	2.35	2.73
-15	(+ 5)	164	41	48	15	0.18	0.52	10.86	2.74	3.18
-10	(+14)	208	53	61	16	0.19	0.66	12.69	3.20	3.72
-5	(+23)	261	66	76	18	0.20	0.82	14.87	3.75	4.36
0	(+32)	322	81	94	19	0.22	1.02	17.47	4.40	5.12

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)	37	9	11	9	0.15	0.12	4.21	1.06	1.23
-30	(-22)	59	15	17	11	0.16	0.19	5.52	1.39	1.62
-25	(-13)	85	21	25	13	0.17	0.27	6.74	1.70	1.98
-20	(- 4)	115	29	34	15	0.18	0.36	7.94	2.00	2.33
-15	(+ 5)	151	38	44	17	0.18	0.48	9.19	2.32	2.69
-10	(+14)	193	49	57	18	0.19	0.61	10.55	2.66	3.09
-5	(+23)	243	61	71	20	0.21	0.77	12.11	3.05	3.55
0	(+32)	300	76	88	22	0.23	0.95	13.92	3.51	4.08

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)	12	3	3	8	0.15	0.04	1.64	0.41	0.48
-30	(-22)	37	9	11	10	0.17	0.12	3.45	0.87	1.01
-25	(-13)	65	16	19	13	0.18	0.20	5.00	1.26	1.46
-20	(- 4)	97	24	28	15	0.19	0.31	6.36	1.60	1.86
-15	(+ 5)	134	34	39	18	0.20	0.42	7.61	1.92	2.23
-10	(+14)	176	44	52	20	0.21	0.55	8.81	2.22	2.58
-5	(+23)	224	56	66	22	0.22	0.71	10.05	2.53	2.94
0	(+32)	280	70	82	24	0.24	0.89	11.38	2.87	3.33

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)	79	20	23	14	0.19	0.25	5.71	1.44	1.67
-30	(-22)	108	27	32	16	0.19	0.34	6.77	1.71	1.98
-25	(-13)	147	37	43	19	0.20	0.46	7.93	2.00	2.32
-20	(- 4)	195	49	57	21	0.21	0.61	9.24	2.33	2.71
-15	(+ 5)	254	64	74	24	0.23	0.80	10.78	2.72	3.16
-10	(+14)	324	82	95	26	0.24	1.02	12.61	3.18	3.69
-5	(+23)	406	102	119	27	0.26	1.28	14.80	3.73	4.34
0	(+32)	500	126	146	28	0.27	1.58	17.43	4.39	5.11

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)	57	14	17	13	0.19	0.18	4.35	1.10	1.27
-30	(-22)	88	22	26	16	0.20	0.28	5.51	1.39	1.61
-25	(-13)	128	32	37	19	0.21	0.40	6.64	1.67	1.94
-20	(- 4)	176	44	52	22	0.22	0.55	7.81	1.97	2.29
-15	(+ 5)	234	59	69	26	0.24	0.74	9.10	2.29	2.67
-10	(+14)	302	76	88	29	0.26	0.95	10.57	2.66	3.10
-5	(+23)	380	96	111	31	0.27	1.20	12.29	3.10	3.60
0	(+32)	470	118	138	33	0.29	1.49	14.33	3.61	4.20

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)	40	10	12	12	0.18	0.12	3.26	0.82	0.96
-30	(-22)	72	18	21	16	0.19	0.23	4.57	1.15	1.34
-25	(-13)	111	28	33	19	0.21	0.35	5.73	1.44	1.68
-20	(- 4)	158	40	46	23	0.23	0.50	6.83	1.72	2.00
-15	(+ 5)	214	54	63	27	0.25	0.67	7.92	2.00	2.32
-10	(+14)	279	70	82	31	0.28	0.88	9.09	2.29	2.66
-5	(+23)	353	89	103	34	0.30	1.12	10.39	2.62	3.05
0	(+32)	438	110	128	37	0.32	1.39	11.90	3.00	3.49

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)	107	27	31	22	0.22	0.34	4.99	1.26	1.46
-30	(-22)	155	39	45	25	0.24	0.49	6.19	1.56	1.81
-25	(-13)	217	55	64	29	0.26	0.68	7.48	1.89	2.19
-20	(- 4)	293	74	86	33	0.28	0.92	8.89	2.24	2.61
-15	(+ 5)	383	97	112	37	0.30	1.21	10.45	2.63	3.06
-10	(+14)	488	123	143	40	0.32	1.54	12.18	3.07	3.57
-5	(+23)	608	153	178	43	0.34	1.92	14.11	3.55	4.13
0	(+32)	743	187	218	45	0.36	2.36	16.26	4.10	4.76

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)	95	24	28	22	0.22	0.30	4.40	1.11	1.29
-30	(-22)	138	35	40	25	0.24	0.43	5.46	1.38	1.60
-25	(-13)	195	49	57	30	0.27	0.61	6.56	1.65	1.92
-20	(- 4)	267	67	78	35	0.29	0.84	7.73	1.95	2.27
-15	(+ 5)	354	89	104	39	0.32	1.11	8.99	2.27	2.63
-10	(+14)	456	115	134	44	0.35	1.44	10.37	2.61	3.04
-5	(+23)	574	145	168	48	0.38	1.82	11.90	3.00	3.49
0	(+32)	708	178	207	52	0.41	2.24	13.60	3.43	3.98

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)	64	16	19	19	0.21	0.20	3.28	0.83	0.96
-30	(-22)	103	26	30	24	0.23	0.32	4.38	1.10	1.28
-25	(-13)	158	40	46	29	0.26	0.50	5.46	1.38	1.60
-20	(- 4)	228	58	67	35	0.29	0.72	6.55	1.65	1.92
-15	(+ 5)	314	79	92	41	0.33	0.99	7.69	1.94	2.25
-10	(+14)	416	105	122	47	0.36	1.31	8.90	2.24	2.61
-5	(+23)	534	135	156	52	0.40	1.69	10.20	2.57	2.99
0	(+32)	669	169	196	58	0.44	2.12	11.62	2.93	3.41

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)	152	38	45	29	0.27	0.48	5.15	1.30	1.51
-30	(-22)	209	53	61	35	0.30	0.65	6.03	1.52	1.77
-25	(-13)	285	72	83	41	0.33	0.89	7.03	1.77	2.06
-20	(- 4)	383	96	112	47	0.37	1.20	8.18	2.06	2.40
-15	(+ 5)	505	127	148	53	0.41	1.59	9.53	2.40	2.79
-10	(+14)	654	165	192	59	0.46	2.06	11.11	2.80	3.26
-5	(+23)	832	210	244	64	0.51	2.63	12.98	3.27	3.80
0	(+32)	1041	262	305	69	0.57	3.30	15.16	3.82	4.44

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)	112	28	33	28	0.26	0.35	4.00	1.01	1.17
-30	(-22)	174	44	51	35	0.30	0.55	4.97	1.25	1.46
-25	(-13)	253	64	74	42	0.34	0.79	5.99	1.51	1.75
-20	(- 4)	352	89	103	50	0.39	1.11	7.10	1.79	2.08
-15	(+ 5)	472	119	138	57	0.44	1.49	8.35	2.10	2.45
-10	(+14)	617	155	181	63	0.50	1.95	9.76	2.46	2.86
-5	(+23)	788	199	231	69	0.57	2.49	11.39	2.87	3.34
0	(+32)	988	249	289	74	0.65	3.13	13.28	3.35	3.89

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)	73	18	21	23	0.22	0.23	3.21	0.81	0.94
-30	(-22)	140	35	41	32	0.27	0.44	4.22	1.06	1.24
-25	(-13)	221	56	65	42	0.33	0.69	5.23	1.32	1.53
-20	(- 4)	319	80	94	51	0.39	1.00	6.26	1.58	1.84
-15	(+ 5)	437	110	128	60	0.46	1.38	7.36	1.86	2.16
-10	(+14)	576	145	169	67	0.54	1.82	8.57	2.16	2.51
-5	(+23)	739	186	217	74	0.63	2.34	9.93	2.50	2.91
0	(+32)	929	234	272	80	0.73	2.94	11.47	2.89	3.36

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 + 49° to Back		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° 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 0° up + 59° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		