

COMPRESSOR DEFINITION

Designation	FMX Y4C
Nominal Voltage/Frequency	230 V 43 -134 Hz
Engineering Number	513908143

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)	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	CF02D01 M 0.0 X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER CF02D01 M 0	
6 Start winding resistance	18.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	18.50	[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 - 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	15	0.16	0.23	4.86	1.22	1.42	

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]	
119	30	35	23	0.19	0.37	5.13	1.29	1.50	

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]	
172	43	50	32	0.26	0.54	5.39	1.36	1.58	

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]	
241	61	71	45	0.35	0.76	5.36	1.35	1.57	

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	10	0.13	0.16	5.27	1.33	1.55
-30	(-22)	71	18	21	11	0.14	0.22	6.29	1.58	1.84
-25	(-13)	96	24	28	13	0.15	0.30	7.36	1.86	2.16
-20	(- 4)	127	32	37	15	0.16	0.40	8.56	2.16	2.51
-15	(+ 5)	164	41	48	16	0.17	0.52	9.96	2.51	2.92
-10	(+14)	208	52	61	18	0.18	0.66	11.63	2.93	3.41
-5	(+23)	261	66	77	19	0.19	0.83	13.65	3.44	4.00
0	(+32)	323	81	95	21	0.20	1.02	16.08	4.05	4.71

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	0.13	0.12	3.94	0.99	1.16
-30	(-22)	59	15	17	12	0.15	0.19	5.13	1.29	1.50
-25	(-13)	85	21	25	14	0.16	0.27	6.22	1.57	1.82
-20	(- 4)	115	29	34	16	0.17	0.36	7.27	1.83	2.13
-15	(+ 5)	151	38	44	18	0.19	0.48	8.37	2.11	2.45
-10	(+14)	193	49	57	20	0.20	0.61	9.59	2.42	2.81
-5	(+23)	243	61	71	22	0.21	0.77	10.99	2.77	3.22
0	(+32)	301	76	88	24	0.23	0.95	12.65	3.19	3.71

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	4	7	0.11	0.04	1.69	0.43	0.49
-30	(-22)	38	9	11	11	0.14	0.12	3.31	0.84	0.97
-25	(-13)	66	17	19	14	0.16	0.21	4.68	1.18	1.37
-20	(- 4)	98	25	29	17	0.18	0.31	5.87	1.48	1.72
-15	(+ 5)	134	34	39	19	0.19	0.42	6.94	1.75	2.03
-10	(+14)	176	44	52	22	0.21	0.55	7.97	2.01	2.34
-5	(+23)	224	56	66	25	0.23	0.71	9.03	2.28	2.65
0	(+32)	280	70	82	27	0.25	0.89	10.19	2.57	2.99

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	15	0.16	0.25	5.32	1.34	1.56
-30	(-22)	108	27	32	17	0.17	0.34	6.34	1.60	1.86
-25	(-13)	147	37	43	20	0.19	0.46	7.29	1.84	2.14
-20	(- 4)	196	49	57	23	0.22	0.62	8.35	2.10	2.45
-15	(+ 5)	255	64	75	26	0.24	0.80	9.69	2.44	2.84
-10	(+14)	325	82	95	29	0.25	1.03	11.48	2.89	3.36
-5	(+23)	406	102	119	29	0.26	1.28	13.88	3.50	4.07
0	(+32)	498	126	146	28	0.25	1.58	17.07	4.30	5.00

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	14	0.16	0.18	3.99	1.01	1.17
-30	(-22)	88	22	26	17	0.17	0.27	5.34	1.34	1.56
-25	(-13)	127	32	37	20	0.20	0.40	6.40	1.61	1.87
-20	(- 4)	176	44	51	24	0.23	0.55	7.34	1.85	2.15
-15	(+ 5)	234	59	68	28	0.26	0.74	8.34	2.10	2.44
-10	(+14)	302	76	88	31	0.29	0.95	9.57	2.41	2.81
-5	(+23)	380	96	111	34	0.31	1.20	11.20	2.82	3.28
0	(+32)	469	118	137	35	0.32	1.49	13.39	3.37	3.92

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	13	0.15	0.13	3.06	0.77	0.90
-30	(-22)	71	18	21	15	0.16	0.22	4.81	1.21	1.41
-25	(-13)	110	28	32	18	0.19	0.34	6.05	1.52	1.77
-20	(- 4)	157	40	46	23	0.22	0.49	6.96	1.75	2.04
-15	(+ 5)	213	54	62	28	0.26	0.67	7.70	1.94	2.26
-10	(+14)	278	70	82	33	0.30	0.88	8.46	2.13	2.48
-5	(+23)	353	89	103	37	0.33	1.12	9.38	2.36	2.75
0	(+32)	437	110	128	41	0.35	1.39	10.66	2.69	3.12

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	25	0.22	0.34	4.31	1.09	1.26
-30	(-22)	155	39	45	27	0.23	0.49	5.85	1.47	1.71
-25	(-13)	217	55	64	31	0.26	0.68	6.97	1.76	2.04
-20	(- 4)	293	74	86	37	0.31	0.92	7.96	2.00	2.33
-15	(+ 5)	383	96	112	42	0.35	1.20	9.12	2.30	2.67
-10	(+14)	488	123	143	46	0.38	1.54	10.76	2.71	3.15
-5	(+23)	608	153	178	46	0.38	1.92	13.18	3.32	3.86
0	(+32)	744	187	218	42	0.34	2.36	16.69	4.21	4.89

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	25	0.21	0.30	3.84	0.97	1.12
-30	(-22)	138	35	40	25	0.21	0.43	5.55	1.40	1.63
-25	(-13)	195	49	57	30	0.25	0.61	6.66	1.68	1.95
-20	(- 4)	267	67	78	36	0.30	0.84	7.47	1.88	2.19
-15	(+ 5)	354	89	104	43	0.36	1.11	8.28	2.09	2.43
-10	(+14)	456	115	134	48	0.41	1.44	9.39	2.37	2.75
-5	(+23)	574	145	168	52	0.43	1.81	11.11	2.80	3.25
0	(+32)	708	178	207	51	0.42	2.24	13.73	3.46	4.02

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	20	0.20	0.20	3.18	0.80	0.93
-30	(-22)	105	26	31	20	0.20	0.33	5.18	1.31	1.52
-25	(-13)	160	40	47	25	0.23	0.50	6.41	1.61	1.88
-20	(- 4)	230	58	67	32	0.29	0.72	7.16	1.80	2.10
-15	(+ 5)	315	79	92	41	0.35	0.99	7.73	1.95	2.26
-10	(+14)	416	105	122	49	0.41	1.31	8.43	2.12	2.47
-5	(+23)	534	135	156	56	0.46	1.69	9.55	2.41	2.80
0	(+32)	668	168	196	59	0.47	2.12	11.41	2.88	3.34

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	35	0.30	0.48	4.32	1.09	1.27
-30	(-22)	209	53	61	37	0.30	0.65	5.72	1.44	1.68
-25	(-13)	285	72	83	43	0.34	0.89	6.69	1.69	1.96
-20	(- 4)	383	96	112	50	0.40	1.20	7.55	1.90	2.21
-15	(+ 5)	505	127	148	58	0.46	1.59	8.62	2.17	2.53
-10	(+14)	654	165	192	64	0.51	2.06	10.20	2.57	2.99
-5	(+23)	832	210	244	66	0.53	2.63	12.62	3.18	3.70
0	(+32)	1041	262	305	63	0.50	3.30	16.18	4.08	4.74

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	34	0.31	0.35	3.25	0.82	0.95
-30	(-22)	174	44	51	34	0.31	0.55	5.20	1.31	1.52
-25	(-13)	253	64	74	40	0.35	0.79	6.42	1.62	1.88
-20	(- 4)	352	89	103	49	0.42	1.11	7.26	1.83	2.13
-15	(+ 5)	472	119	138	59	0.50	1.49	8.00	2.02	2.35
-10	(+14)	617	155	181	68	0.58	1.95	8.98	2.26	2.63
-5	(+23)	788	199	231	75	0.63	2.49	10.51	2.65	3.08
0	(+32)	988	249	289	78	0.64	3.13	12.89	3.25	3.78

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	26	0.24	0.23	2.90	0.73	0.85
-30	(-22)	140	35	41	25	0.23	0.44	5.39	1.36	1.58
-25	(-13)	221	56	65	31	0.28	0.69	6.89	1.74	2.02
-20	(- 4)	319	80	94	42	0.37	1.00	7.70	1.94	2.26
-15	(+ 5)	437	110	128	54	0.47	1.38	8.14	2.05	2.39
-10	(+14)	576	145	169	68	0.57	1.82	8.53	2.15	2.50
-5	(+23)	739	186	217	80	0.65	2.34	9.17	2.31	2.69
0	(+32)	929	234	272	90	0.70	2.94	10.39	2.62	3.04

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard FMX		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 45° up + 45° to Back		
3.2 DISCHARGE	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up + 49° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		