

### COMPRESSOR DEFINITION

Designation	FMX Y9CE
Nominal Voltage/Frequency	230 V 43-160 Hz
Engineering Number	513908202

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 43-160	[ 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 <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	8.74	[cm <sup>3</sup> ] (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 <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 43-160 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	19.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	19.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (43/160 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (43/160 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (43/160 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC	

### D - PERFORMANCE - CHECK POINT DATA

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	57	0.46	1.05	5.83	1.47	1.71	

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	109	0.86	1.93	5.63	1.42	1.65	

TEST CONDITIONS: @220V4800RPM			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]	
740	186	217	133	1.01	2.32	5.56	1.40	1.63	

### 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)	126	32	37	22	0.20	0.39	5.77	1.45	1.69
-30	(-22)	169	43	50	26	0.23	0.53	6.45	1.62	1.89
-25	(-13)	222	56	65	31	0.27	0.70	7.22	1.82	2.12
-20	(- 4)	287	72	84	35	0.30	0.90	8.13	2.05	2.38
-15	(+ 5)	368	93	108	40	0.34	1.16	9.23	2.33	2.70
-10	(+14)	467	118	137	44	0.37	1.47	10.55	2.66	3.09
-5	(+23)	587	148	172	48	0.39	1.86	12.15	3.06	3.56
0	(+32)	730	184	214	52	0.41	2.32	14.05	3.54	4.12

### 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)	109	28	32	22	0.21	0.34	4.90	1.24	1.44
-30	(-22)	152	38	44	27	0.24	0.48	5.52	1.39	1.62
-25	(-13)	204	51	60	33	0.28	0.64	6.15	1.55	1.80
-20	(- 4)	269	68	79	39	0.33	0.84	6.83	1.72	2.00
-15	(+ 5)	349	88	102	46	0.37	1.10	7.62	1.92	2.23
-10	(+14)	447	113	131	52	0.42	1.41	8.56	2.16	2.51
-5	(+23)	566	143	166	59	0.47	1.79	9.68	2.44	2.84
0	(+32)	708	178	207	65	0.51	2.24	11.03	2.78	3.23

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)	96	24	28	23	0.21	0.30	4.13	1.04	1.21
-30	(-22)	141	35	41	29	0.25	0.44	4.83	1.22	1.42
-25	(-13)	195	49	57	36	0.30	0.61	5.46	1.38	1.60
-20	(- 4)	262	66	77	43	0.36	0.82	6.07	1.53	1.78
-15	(+ 5)	344	87	101	51	0.42	1.08	6.69	1.69	1.96
-10	(+14)	443	112	130	60	0.48	1.40	7.38	1.86	2.16
-5	(+23)	563	142	165	69	0.55	1.78	8.17	2.06	2.39
0	(+32)	707	178	207	78	0.62	2.24	9.11	2.30	2.67

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)	189	48	55	34	0.28	0.59	5.48	1.38	1.60
-30	(-22)	263	66	77	41	0.34	0.82	6.35	1.60	1.86
-25	(-13)	351	88	103	48	0.39	1.10	7.30	1.84	2.14
-20	(- 4)	455	115	133	54	0.44	1.43	8.36	2.11	2.45
-15	(+ 5)	578	146	169	61	0.48	1.82	9.51	2.40	2.79
-10	(+14)	721	182	211	67	0.53	2.28	10.77	2.71	3.16
-5	(+23)	888	224	260	73	0.58	2.81	12.15	3.06	3.56
0	(+32)	1081	272	317	79	0.64	3.43	13.65	3.44	4.00

### 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)	181	46	53	36	0.30	0.57	5.07	1.28	1.48
-30	(-22)	247	62	72	44	0.36	0.78	5.68	1.43	1.66
-25	(-13)	328	83	96	52	0.42	1.03	6.36	1.60	1.86
-20	(- 4)	427	108	125	60	0.47	1.34	7.13	1.80	2.09
-15	(+ 5)	545	137	160	68	0.53	1.72	7.99	2.01	2.34
-10	(+14)	686	173	201	76	0.60	2.16	8.95	2.26	2.62
-5	(+23)	852	215	250	85	0.66	2.69	10.02	2.52	2.94
0	(+32)	1045	263	306	94	0.74	3.31	11.19	2.82	3.28

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)	159	40	47	35	0.29	0.50	4.53	1.14	1.33
-30	(-22)	219	55	64	44	0.36	0.69	4.99	1.26	1.46
-25	(-13)	295	74	87	54	0.43	0.93	5.52	1.39	1.62
-20	(- 4)	391	98	115	64	0.50	1.23	6.12	1.54	1.79
-15	(+ 5)	508	128	149	74	0.58	1.60	6.80	1.71	1.99
-10	(+14)	648	163	190	85	0.67	2.05	7.58	1.91	2.22
-5	(+23)	815	205	239	97	0.76	2.58	8.44	2.13	2.47
0	(+32)	1010	255	296	108	0.87	3.20	9.41	2.37	2.76

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)	289	73	85	54	0.43	0.90	5.30	1.33	1.55
-30	(-22)	401	101	117	66	0.51	1.26	6.07	1.53	1.78
-25	(-13)	529	133	155	76	0.59	1.66	6.94	1.75	2.03
-20	(- 4)	681	172	199	86	0.67	2.14	7.91	1.99	2.32
-15	(+ 5)	862	217	253	96	0.75	2.71	8.98	2.26	2.63
-10	(+14)	1081	272	317	106	0.83	3.41	10.15	2.56	2.97
-5	(+23)	1343	338	393	117	0.90	4.24	11.44	2.88	3.35
0	(+32)	1655	417	485	130	0.95	5.24	12.84	3.24	3.76

### 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)	254	64	74	53	0.43	0.80	4.78	1.20	1.40
-30	(-22)	364	92	107	67	0.53	1.14	5.42	1.37	1.59
-25	(-13)	490	124	144	80	0.63	1.54	6.13	1.54	1.80
-20	(- 4)	639	161	187	92	0.73	2.01	6.92	1.74	2.03
-15	(+ 5)	817	206	240	105	0.83	2.57	7.79	1.96	2.28
-10	(+14)	1032	260	302	118	0.93	3.26	8.75	2.20	2.56
-5	(+23)	1290	325	378	132	1.02	4.08	9.80	2.47	2.87
0	(+32)	1598	403	468	147	1.09	5.07	10.95	2.76	3.21

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)	224	56	66	53	0.42	0.70	4.26	1.07	1.25
-30	(-22)	331	83	97	68	0.54	1.04	4.83	1.22	1.41
-25	(-13)	453	114	133	83	0.65	1.42	5.45	1.37	1.60
-20	(- 4)	598	151	175	98	0.77	1.88	6.12	1.54	1.79
-15	(+ 5)	771	194	226	112	0.89	2.43	6.86	1.73	2.01
-10	(+14)	981	247	287	128	1.00	3.10	7.66	1.93	2.24
-5	(+23)	1233	311	361	145	1.10	3.90	8.54	2.15	2.50
0	(+32)	1536	387	450	163	1.19	4.87	9.49	2.39	2.78

TEST CONDITIONS: @220V4800RPM		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)	426	107	125	84	0.67	1.33	5.06	1.28	1.48
-30	(-22)	586	148	172	102	0.83	1.84	5.69	1.44	1.67
-25	(-13)	779	196	228	120	0.98	2.44	6.46	1.63	1.89
-20	(- 4)	1009	254	296	137	1.13	3.17	7.35	1.85	2.15
-15	(+ 5)	1280	323	375	153	1.25	4.03	8.40	2.12	2.46
-10	(+14)	1597	403	468	167	1.35	5.04	9.59	2.42	2.81
-5	(+23)	1964	495	576	179	1.42	6.21	10.94	2.76	3.21
0	(+32)	2386	601	699	189	1.45	7.56	12.45	3.14	3.65

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4800RPM		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)	394	99	115	84	0.68	1.23	4.72	1.19	1.38
-30	(-22)	539	136	158	103	0.84	1.69	5.20	1.31	1.52
-25	(-13)	716	181	210	123	1.00	2.25	5.78	1.46	1.69
-20	(- 4)	929	234	272	143	1.16	2.92	6.46	1.63	1.89
-15	(+ 5)	1183	298	347	163	1.31	3.72	7.27	1.83	2.13
-10	(+14)	1481	373	434	181	1.43	4.67	8.19	2.06	2.40
-5	(+23)	1828	461	536	198	1.53	5.78	9.24	2.33	2.71
0	(+32)	2229	562	653	213	1.59	7.07	10.43	2.63	3.06

TEST CONDITIONS: @220V4800RPM		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)	364	92	107	85	0.69	1.14	4.27	1.08	1.25
-30	(-22)	487	123	143	106	0.85	1.53	4.62	1.17	1.35
-25	(-13)	641	162	188	128	1.02	2.01	5.05	1.27	1.48
-20	(- 4)	830	209	243	150	1.19	2.61	5.56	1.40	1.63
-15	(+ 5)	1058	267	310	172	1.35	3.33	6.16	1.55	1.80
-10	(+14)	1330	335	390	195	1.49	4.20	6.85	1.73	2.01
-5	(+23)	1650	416	483	216	1.62	5.22	7.64	1.92	2.24
0	(+32)	2022	510	593	236	1.71	6.41	8.53	2.15	2.50

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal FMX		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 45° up		
3.2 DISCHARGE	4.2 +0.10/-0.05	[mm]	(0.165" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted parallel B.Plate 30°		
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		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		