

COMPRESSOR DEFINITION

Designation	FMX Y9C
Nominal Voltage/Frequency	230 V 43 -134 Hz
Engineering Number	513908312

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	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL 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	CF02C05	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER CF02C05	
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)	-	[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	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V1300RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
212	53	62	38	0.18	0.67	5.64	1.42	1.65	

TEST CONDITIONS: @115V2000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
334	84	98	57	0.27	1.05	5.83	1.47	1.71	

TEST CONDITIONS: @115V3000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
495	125	145	83	0.38	1.55	5.97	1.50	1.75	

TEST CONDITIONS: @115V4000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
614	155	180	109	0.47	1.93	5.63	1.42	1.65	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static				(Condensing temperature 35°C (+95°F))				
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	132	33	39	22	0.13	0.41	5.97	1.50	1.75
-30	(-22)	177	45	52	27	0.14	0.56	6.46	1.63	1.89
-25	(-13)	233	59	68	32	0.15	0.73	7.35	1.85	2.15
-20	(- 4)	301	76	88	35	0.17	0.94	8.55	2.16	2.51
-15	(+ 5)	383	96	112	38	0.19	1.20	10.01	2.52	2.93
-10	(+14)	480	121	141	41	0.21	1.51	11.64	2.93	3.41
-5	(+23)	595	150	174	44	0.22	1.88	13.39	3.37	3.92
0	(+32)	730	184	214	48	0.22	2.31	15.17	3.82	4.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	114	29	33	23	0.13	0.36	5.11	1.29	1.50
-30	(-22)	158	40	46	29	0.14	0.50	5.52	1.39	1.62
-25	(-13)	213	54	62	34	0.16	0.67	6.22	1.57	1.82
-20	(- 4)	279	70	82	39	0.19	0.88	7.13	1.80	2.09
-15	(+ 5)	359	90	105	44	0.21	1.13	8.19	2.06	2.40
-10	(+14)	454	114	133	49	0.23	1.43	9.32	2.35	2.73
-5	(+23)	566	143	166	54	0.25	1.79	10.46	2.64	3.06
0	(+32)	697	176	204	60	0.26	2.21	11.53	2.91	3.38

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	98	25	29	22	0.13	0.31	4.40	1.11	1.29
-30	(-22)	141	36	41	29	0.15	0.44	4.76	1.20	1.39
-25	(-13)	194	49	57	36	0.17	0.61	5.30	1.34	1.55
-20	(- 4)	258	65	75	43	0.21	0.81	5.96	1.50	1.74
-15	(+ 5)	335	84	98	51	0.24	1.05	6.65	1.68	1.95
-10	(+14)	426	107	125	59	0.27	1.35	7.31	1.84	2.14
-5	(+23)	535	135	157	68	0.29	1.69	7.88	1.99	2.31
0	(+32)	661	167	194	78	0.30	2.10	8.27	2.08	2.42

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	197	50	58	34	0.18	0.62	5.71	1.44	1.67
-30	(-22)	265	67	78	42	0.21	0.83	6.34	1.60	1.86
-25	(-13)	350	88	103	48	0.23	1.10	7.33	1.85	2.15
-20	(- 4)	456	115	134	53	0.25	1.43	8.57	2.16	2.51
-15	(+ 5)	584	147	171	59	0.28	1.84	9.94	2.51	2.91
-10	(+14)	736	185	216	65	0.31	2.32	11.33	2.86	3.32
-5	(+23)	913	230	267	72	0.34	2.89	12.63	3.18	3.70
0	(+32)	1118	282	328	82	0.37	3.54	13.71	3.45	4.02

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	178	45	52	35	0.18	0.56	5.09	1.28	1.49
-30	(-22)	244	61	71	44	0.21	0.76	5.58	1.41	1.63
-25	(-13)	327	82	96	51	0.24	1.03	6.40	1.61	1.88
-20	(- 4)	430	108	126	58	0.27	1.35	7.45	1.88	2.18
-15	(+ 5)	555	140	163	65	0.30	1.75	8.60	2.17	2.52
-10	(+14)	703	177	206	72	0.34	2.22	9.75	2.46	2.86
-5	(+23)	877	221	257	81	0.38	2.77	10.76	2.71	3.15
0	(+32)	1078	272	316	93	0.43	3.41	11.54	2.91	3.38

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	163	41	48	36	0.19	0.51	4.56	1.15	1.33
-30	(-22)	225	57	66	46	0.22	0.71	4.90	1.24	1.44
-25	(-13)	304	77	89	55	0.25	0.95	5.56	1.40	1.63
-20	(- 4)	403	102	118	63	0.29	1.27	6.42	1.62	1.88
-15	(+ 5)	523	132	153	72	0.33	1.65	7.35	1.85	2.15
-10	(+14)	666	168	195	81	0.37	2.10	8.25	2.08	2.42
-5	(+23)	835	210	245	93	0.42	2.64	8.99	2.27	2.63
0	(+32)	1030	260	302	106	0.48	3.27	9.47	2.39	2.77

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	277	70	81	52	0.24	0.87	5.31	1.34	1.55
-30	(-22)	397	100	116	64	0.27	1.25	6.22	1.57	1.82
-25	(-13)	535	135	157	74	0.32	1.68	7.24	1.82	2.12
-20	(- 4)	696	175	204	84	0.38	2.19	8.32	2.10	2.44
-15	(+ 5)	885	223	259	94	0.43	2.78	9.45	2.38	2.77
-10	(+14)	1107	279	324	105	0.48	3.49	10.57	2.66	3.10
-5	(+23)	1368	345	401	117	0.51	4.33	11.65	2.94	3.41
0	(+32)	1674	422	490	132	0.52	5.31	12.67	3.19	3.71

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	245	62	72	53	0.24	0.77	4.66	1.17	1.37
-30	(-22)	361	91	106	65	0.28	1.13	5.47	1.38	1.60
-25	(-13)	494	124	145	77	0.33	1.55	6.39	1.61	1.87
-20	(- 4)	649	164	190	88	0.39	2.04	7.39	1.86	2.16
-15	(+ 5)	832	210	244	99	0.45	2.62	8.42	2.12	2.47
-10	(+14)	1049	264	307	111	0.51	3.31	9.45	2.38	2.77
-5	(+23)	1304	329	382	125	0.55	4.12	10.45	2.63	3.06
0	(+32)	1604	404	470	141	0.58	5.09	11.38	2.87	3.33

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	223	56	65	52	0.24	0.70	4.27	1.08	1.25
-30	(-22)	332	84	97	67	0.29	1.04	4.91	1.24	1.44
-25	(-13)	458	115	134	81	0.35	1.44	5.66	1.43	1.66
-20	(- 4)	606	153	178	93	0.41	1.91	6.49	1.63	1.90
-15	(+ 5)	782	197	229	107	0.49	2.46	7.35	1.85	2.15
-10	(+14)	991	250	290	121	0.55	3.13	8.23	2.07	2.41
-5	(+23)	1239	312	363	137	0.61	3.92	9.07	2.28	2.66
0	(+32)	1530	386	448	155	0.64	4.85	9.84	2.48	2.88

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	330	83	97	64	0.30	1.03	5.13	1.29	1.50
-30	(-22)	481	121	141	82	0.37	1.51	5.90	1.49	1.73
-25	(-13)	676	170	198	100	0.45	2.12	6.73	1.70	1.97
-20	(- 4)	905	228	265	119	0.53	2.84	7.63	1.92	2.24
-15	(+ 5)	1156	291	339	135	0.60	3.64	8.58	2.16	2.51
-10	(+14)	1420	358	416	149	0.65	4.48	9.59	2.42	2.81
-5	(+23)	1687	425	494	158	0.67	5.33	10.65	2.68	3.12
0	(+32)	1945	490	570	161	0.65	6.17	11.77	2.97	3.45

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	301	76	88	66	0.30	0.94	4.58	1.15	1.34
-30	(-22)	438	110	128	83	0.37	1.37	5.30	1.33	1.55
-25	(-13)	622	157	182	102	0.45	1.95	6.08	1.53	1.78
-20	(- 4)	843	212	247	121	0.54	2.65	6.91	1.74	2.03
-15	(+ 5)	1090	275	319	139	0.63	3.43	7.81	1.97	2.29
-10	(+14)	1353	341	396	155	0.69	4.27	8.76	2.21	2.57
-5	(+23)	1621	409	475	166	0.73	5.13	9.77	2.46	2.86
0	(+32)	1885	475	552	172	0.73	5.98	10.83	2.73	3.17

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	277	70	81	68	0.31	0.87	4.10	1.03	1.20
-30	(-22)	397	100	116	85	0.38	1.24	4.75	1.20	1.39
-25	(-13)	567	143	166	104	0.46	1.78	5.47	1.38	1.60
-20	(- 4)	777	196	228	124	0.55	2.44	6.24	1.57	1.83
-15	(+ 5)	1017	256	298	143	0.64	3.20	7.06	1.78	2.07
-10	(+14)	1276	322	374	161	0.72	4.03	7.95	2.00	2.33
-5	(+23)	1544	389	452	174	0.78	4.88	8.89	2.24	2.60
0	(+32)	1811	456	531	182	0.80	5.74	9.88	2.49	2.89

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard FMX		
2 Tray holder	Yes		
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 28° up + 25° 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 + 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		