

COMPRESSOR DEFINITION

Designation	FMX Y9C
Nominal Voltage/Frequency	230 V 43 -134 Hz
Engineering Number	513908020

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 Expantion 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 (gauge)	6.9	[kgf/cm²] (98 psig)	/ °C - °F
9.2 Peak (gauge)	7.8	[kgf/cm²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/7	[hp]
2 Displacement	8.74	[cm³] (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/cm²] (2.84 to 4.27 psig)

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	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	VDE	

D - PERFORMANCE - CHECK POINT DATA

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 35°C (+95°F))					
@220V1300RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	130	33	38	22	0.22	0.41	5.89	1.48	1.72
-30	(-22)	174	44	51	27	0.25	0.54	6.35	1.60	1.86
-25	(-13)	228	58	67	32	0.28	0.72	7.21	1.82	2.11
-20	(- 4)	295	74	86	35	0.31	0.93	8.38	2.11	2.46
-15	(+ 5)	375	94	110	38	0.33	1.18	9.80	2.47	2.87
-10	(+14)	470	119	138	41	0.36	1.48	11.40	2.87	3.34
-5	(+23)	583	147	171	44	0.38	1.84	13.10	3.30	3.84
0	(+32)	713	180	209	48	0.39	2.26	14.84	3.74	4.35

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 45°C (+113°F))					
@220V1300RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	114	29	33	23	0.22	0.36	5.11	1.29	1.50
-30	(-22)	158	40	46	29	0.25	0.49	5.50	1.39	1.61
-25	(-13)	211	53	62	34	0.29	0.66	6.17	1.56	1.81
-20	(- 4)	276	69	81	39	0.33	0.87	7.06	1.78	2.07
-15	(+ 5)	353	89	104	44	0.36	1.11	8.08	2.04	2.37
-10	(+14)	446	112	131	49	0.40	1.41	9.16	2.31	2.69
-5	(+23)	554	140	162	54	0.43	1.75	10.25	2.58	3.00
0	(+32)	681	172	199	60	0.47	2.16	11.25	2.84	3.30

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 55°C (+131°F))					
@220V1300RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	97	24	28	22	0.22	0.30	4.34	1.09	1.27
-30	(-22)	140	35	41	29	0.26	0.44	4.71	1.19	1.38
-25	(-13)	192	48	56	36	0.30	0.60	5.25	1.32	1.54
-20	(- 4)	254	64	75	43	0.35	0.80	5.89	1.48	1.73
-15	(+ 5)	330	83	97	51	0.40	1.04	6.56	1.65	1.92
-10	(+14)	419	105	123	59	0.45	1.32	7.18	1.81	2.11
-5	(+23)	523	132	153	68	0.51	1.65	7.70	1.94	2.26
0	(+32)	645	162	189	78	0.56	2.04	8.03	2.02	2.35

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 35°C (+95°F))					
@220V2000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	194	49	57	34	0.31	0.61	5.62	1.42	1.65
-30	(-22)	260	65	76	42	0.36	0.81	6.22	1.57	1.82
-25	(-13)	343	87	101	48	0.40	1.08	7.19	1.81	2.11
-20	(- 4)	447	113	131	53	0.44	1.40	8.39	2.11	2.46
-15	(+ 5)	571	144	167	59	0.48	1.80	9.72	2.45	2.85
-10	(+14)	717	181	210	65	0.53	2.26	11.05	2.79	3.24
-5	(+23)	887	224	260	72	0.59	2.80	12.27	3.09	3.60
0	(+32)	1082	273	317	82	0.67	3.43	13.25	3.34	3.88

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 45°C (+113°F))					
@220V2000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	175	44	51	35	0.31	0.55	5.00	1.26	1.47
-30	(-22)	239	60	70	44	0.37	0.75	5.47	1.38	1.60
-25	(-13)	321	81	94	51	0.42	1.01	6.27	1.58	1.84
-20	(- 4)	421	106	123	58	0.47	1.32	7.29	1.84	2.14
-15	(+ 5)	543	137	159	65	0.52	1.71	8.41	2.12	2.46
-10	(+14)	686	173	201	72	0.58	2.16	9.51	2.40	2.79
-5	(+23)	853	215	250	81	0.66	2.70	10.47	2.64	3.07
0	(+32)	1044	263	306	93	0.75	3.31	11.17	2.81	3.27

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 55°C (+131°F))					
@220V2000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	161	41	47	36	0.32	0.51	4.50	1.13	1.32
-30	(-22)	221	56	65	46	0.38	0.69	4.83	1.22	1.41
-25	(-13)	299	75	88	55	0.44	0.94	5.46	1.38	1.60
-20	(- 4)	396	100	116	63	0.50	1.24	6.30	1.59	1.84
-15	(+ 5)	512	129	150	72	0.57	1.61	7.20	1.81	2.11
-10	(+14)	651	164	191	81	0.64	2.05	8.06	2.03	2.36
-5	(+23)	812	205	238	93	0.73	2.57	8.75	2.21	2.56
0	(+32)	998	252	293	106	0.84	3.17	9.16	2.31	2.68

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 35°C (+95°F))					
@220V3000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	272	68	80	52	0.43	0.85	5.21	1.31	1.53
-30	(-22)	385	97	113	64	0.49	1.21	6.03	1.52	1.77
-25	(-13)	517	130	152	74	0.56	1.62	6.99	1.76	2.05
-20	(- 4)	673	170	197	84	0.65	2.11	8.04	2.03	2.36
-15	(+ 5)	856	216	251	94	0.74	2.69	9.13	2.30	2.68
-10	(+14)	1070	270	314	105	0.82	3.38	10.21	2.57	2.99
-5	(+23)	1319	332	387	117	0.88	4.17	11.24	2.83	3.29
0	(+32)	1607	405	471	132	0.91	5.09	12.17	3.07	3.57

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 45°C (+113°F))					
@220V3000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	242	61	71	53	0.42	0.76	4.60	1.16	1.35
-30	(-22)	352	89	103	65	0.49	1.10	5.35	1.35	1.57
-25	(-13)	481	121	141	77	0.58	1.51	6.23	1.57	1.83
-20	(- 4)	632	159	185	88	0.68	1.99	7.19	1.81	2.11
-15	(+ 5)	810	204	237	99	0.79	2.55	8.19	2.06	2.40
-10	(+14)	1017	256	298	111	0.88	3.21	9.16	2.31	2.68
-5	(+23)	1258	317	368	125	0.96	3.98	10.07	2.54	2.95
0	(+32)	1536	387	450	141	1.02	4.87	10.87	2.74	3.18

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 55°C (+131°F))					
@220V3000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	222	56	65	52	0.42	0.69	4.23	1.07	1.24
-30	(-22)	328	83	96	67	0.50	1.03	4.85	1.22	1.42
-25	(-13)	452	114	132	81	0.61	1.42	5.58	1.41	1.64
-20	(- 4)	596	150	175	93	0.72	1.87	6.39	1.61	1.87
-15	(+ 5)	765	193	224	107	0.84	2.41	7.21	1.82	2.11
-10	(+14)	963	243	282	121	0.96	3.04	8.01	2.02	2.35
-5	(+23)	1194	301	350	137	1.06	3.78	8.73	2.20	2.56
0	(+32)	1461	368	428	155	1.13	4.63	9.33	2.35	2.73

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 35°C (+95°F))					
@220V4000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	323	81	95	64	0.50	1.01	5.02	1.27	1.47
-30	(-22)	472	119	138	82	0.64	1.48	5.78	1.46	1.69
-25	(-13)	661	167	194	100	0.78	2.07	6.58	1.66	1.93
-20	(- 4)	881	222	258	119	0.93	2.77	7.43	1.87	2.18
-15	(+ 5)	1120	282	328	135	1.05	3.52	8.31	2.09	2.43
-10	(+14)	1367	345	401	149	1.14	4.31	9.23	2.33	2.70
-5	(+23)	1614	407	473	158	1.18	5.10	10.19	2.57	2.98
0	(+32)	1848	466	541	161	1.16	5.86	11.18	2.82	3.28

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 45°C (+113°F))					
@220V4000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	300	75	88	66	0.51	0.94	4.53	1.14	1.33
-30	(-22)	433	109	127	83	0.64	1.36	5.22	1.32	1.53
-25	(-13)	610	154	179	102	0.79	1.91	5.96	1.50	1.75
-20	(- 4)	822	207	241	121	0.94	2.58	6.74	1.70	1.98
-15	(+ 5)	1057	266	310	139	1.08	3.33	7.57	1.91	2.22
-10	(+14)	1305	329	382	155	1.20	4.11	8.45	2.13	2.48
-5	(+23)	1555	392	456	166	1.28	4.92	9.37	2.36	2.75
0	(+32)	1798	453	527	172	1.31	5.70	10.34	2.61	3.03

TEST CONDITIONS:		ASHRAE-IND			(Condensing temperature 55°C (+131°F))					
@220V4000RPM		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	273	69	80	68	0.54	0.85	4.05	1.02	1.19
-30	(-22)	388	98	114	85	0.66	1.22	4.66	1.17	1.36
-25	(-13)	552	139	162	104	0.80	1.73	5.32	1.34	1.56
-20	(- 4)	754	190	221	124	0.96	2.37	6.04	1.52	1.77
-15	(+ 5)	983	248	288	143	1.12	3.09	6.82	1.72	2.00
-10	(+14)	1229	310	360	161	1.26	3.88	7.65	1.93	2.24
-5	(+23)	1482	374	434	174	1.37	4.69	8.53	2.15	2.50
0	(+32)	1731	436	507	182	1.44	5.49	9.46	2.39	2.77

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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 + 45° to Back		
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 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 45° up + 49° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		