COMPRESSOR DEFINITION

Designation	**FMX A4C**
Nominal Voltage/Frequency	**230 V 43 -134 Hz**
Engineering Number	**513908157**

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 (32ºC Ambient temperature)	-	-	-
8.2 LBP (43ºC Ambient temperature)	-	-	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/16	[hp]
2 Displacement	3.97	[cm³] (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)	4.9	[kg] (10.80 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 25ºC (77ºF)] +/- 8%
7 Run winding resistance	20.00	[Ω at 25ºC (77ºF)] +/- 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	15	0.15	0.23	4.97	1.25	1.46

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	22	0.20	0.39	5.64	1.42	1.65

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	32	0.28	0.55	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]
256	65	75	48	0.38	0.80	5.39	1.36	1.58

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V1300RPM**		**ASHRAE32** **Static**			(Condensing temperature **35ºC (+95ºF))**					
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)**	50	13	15	9	0.13	0.16	5.62	1.42	1.65
-30	**(-22)**	71	18	21	11	0.14	0.22	6.64	1.67	1.95
-25	**(-13)**	96	24	28	12	0.14	0.30	7.80	1.97	2.29
-20	**(- 4)**	127	32	37	14	0.15	0.40	9.13	2.30	2.68
-15	**(+ 5)**	164	41	48	15	0.16	0.52	10.67	2.69	3.13
-10	**(+14)**	208	52	61	17	0.16	0.66	12.44	3.14	3.65
-5	**(+23)**	261	66	77	18	0.17	0.83	14.48	3.65	4.24
0	**(+32)**	323	81	95	20	0.17	1.02	16.82	4.24	4.93

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V1300RPM **Static**

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	0.12	0.12	4.18	1.05	1.23
-30	**(-22)**	59	15	17	11	0.13	0.19	5.37	1.35	1.57
-25	**(-13)**	85	21	25	13	0.15	0.27	6.53	1.65	1.91
-20	**(- 4)**	115	29	34	15	0.16	0.36	7.70	1.94	2.26
-15	**(+ 5)**	151	38	44	17	0.17	0.48	8.91	2.25	2.61
-10	**(+14)**	193	49	57	19	0.18	0.61	10.19	2.57	2.99
-5	**(+23)**	243	61	71	21	0.19	0.77	11.58	2.92	3.39
0	**(+32)**	301	76	88	23	0.20	0.95	13.10	3.30	3.84

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V1300RPM **Static**

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	0.12	0.04	1.67	0.42	0.49
-30	**(-22)**	38	9	11	11	0.13	0.12	3.33	0.84	0.98
-25	**(-13)**	66	17	19	13	0.15	0.21	4.81	1.21	1.41
-20	**(- 4)**	98	25	29	16	0.17	0.31	6.13	1.55	1.80
-15	**(+ 5)**	134	34	39	18	0.18	0.42	7.33	1.85	2.15
-10	**(+14)**	176	44	52	21	0.20	0.55	8.44	2.13	2.47
-5	**(+23)**	224	56	66	24	0.22	0.71	9.48	2.39	2.78
0	**(+32)**	280	70	82	26	0.24	0.89	10.50	2.65	3.08

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V2000RPM **Static**

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	0.14	0.25	5.70	1.44	1.67
-30	**(-22)**	108	27	32	17	0.17	0.34	6.60	1.66	1.93
-25	**(-13)**	147	37	43	19	0.20	0.46	7.66	1.93	2.24
-20	**(- 4)**	196	49	57	22	0.23	0.62	8.92	2.25	2.61
-15	**(+ 5)**	255	64	75	24	0.25	0.80	10.45	2.63	3.06
-10	**(+14)**	325	82	95	26	0.26	1.02	12.29	3.10	3.60
-5	**(+23)**	406	102	119	28	0.25	1.28	14.49	3.65	4.24
0	**(+32)**	499	126	146	29	0.21	1.58	17.09	4.31	5.01

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V2000RPM **Static**

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	0.15	0.18	4.23	1.07	1.24
-30	**(-22)**	88	22	26	17	0.17	0.28	5.27	1.33	1.55
-25	**(-13)**	128	32	37	20	0.20	0.40	6.33	1.60	1.86
-20	**(- 4)**	176	44	52	23	0.23	0.55	7.45	1.88	2.18
-15	**(+ 5)**	234	59	69	27	0.26	0.74	8.69	2.19	2.55
-10	**(+14)**	302	76	88	30	0.28	0.95	10.09	2.54	2.96
-5	**(+23)**	380	96	111	33	0.28	1.20	11.70	2.95	3.43
0	**(+32)**	469	118	137	35	0.26	1.49	13.57	3.42	3.98

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V2000RPM **Static**

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	0.12	3.16	0.80	0.93
-30	**(-22)**	72	18	21	16	0.16	0.22	4.44	1.12	1.30
-25	**(-13)**	111	28	33	20	0.19	0.35	5.58	1.41	1.63
-20	**(- 4)**	158	40	46	24	0.23	0.50	6.63	1.67	1.94
-15	**(+ 5)**	214	54	63	28	0.27	0.67	7.66	1.93	2.24
-10	**(+14)**	279	70	82	32	0.30	0.88	8.70	2.19	2.55
-5	**(+23)**	353	89	103	36	0.32	1.12	9.81	2.47	2.87
0	**(+32)**	437	110	128	39	0.32	1.38	11.03	2.78	3.23

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V3000RPM **Static**

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	20	0.20	0.34	5.26	1.33	1.54
-30	**(-22)**	155	39	45	24	0.23	0.49	6.29	1.59	1.84
-25	**(-13)**	217	55	64	29	0.26	0.68	7.33	1.85	2.15
-20	**(- 4)**	293	74	86	34	0.30	0.92	8.49	2.14	2.49
-15	**(+ 5)**	383	97	112	39	0.33	1.21	9.87	2.49	2.89
-10	**(+14)**	488	123	143	42	0.34	1.54	11.60	2.92	3.40
-5	**(+23)**	608	153	178	44	0.33	1.92	13.77	3.47	4.03
0	**(+32)**	743	187	218	43	0.30	2.36	16.50	4.16	4.83

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V3000RPM **Static**

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	21	0.20	0.30	4.44	1.12	1.30
-30	**(-22)**	138	35	40	25	0.22	0.43	5.50	1.38	1.61
-25	**(-13)**	195	49	57	30	0.26	0.61	6.46	1.63	1.89
-20	**(- 4)**	267	67	78	36	0.31	0.84	7.44	1.88	2.18
-15	**(+ 5)**	354	89	104	41	0.35	1.11	8.56	2.16	2.51
-10	**(+14)**	456	115	134	46	0.39	1.44	9.92	2.50	2.91
-5	**(+23)**	574	145	168	49	0.41	1.82	11.63	2.93	3.41
0	**(+32)**	708	178	207	51	0.40	2.24	13.80	3.48	4.04

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V3000RPM **Static**

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	0.19	0.20	3.25	0.82	0.95
-30	**(-22)**	103	26	30	24	0.22	0.32	4.37	1.10	1.28
-25	**(-13)**	158	40	46	30	0.27	0.50	5.31	1.34	1.56
-20	**(- 4)**	228	58	67	37	0.32	0.72	6.18	1.56	1.81
-15	**(+ 5)**	314	79	92	44	0.38	0.99	7.08	1.78	2.07
-10	**(+14)**	416	105	122	51	0.44	1.31	8.13	2.05	2.38
-5	**(+23)**	534	135	156	57	0.48	1.69	9.43	2.38	2.76
0	**(+32)**	669	169	196	61	0.51	2.12	11.10	2.80	3.25

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V4000RPM **Static**

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	34	0.29	0.48	4.46	1.12	1.31
-30	**(-22)**	209	53	61	40	0.34	0.65	5.29	1.33	1.55
-25	**(-13)**	285	72	83	45	0.38	0.89	6.42	1.62	1.88
-20	**(- 4)**	383	96	112	49	0.42	1.20	7.78	1.96	2.28
-15	**(+ 5)**	505	127	148	54	0.45	1.59	9.33	2.35	2.73
-10	**(+14)**	654	165	192	59	0.48	2.06	11.02	2.78	3.23
-5	**(+23)**	832	210	244	65	0.53	2.63	12.78	3.22	3.75
0	**(+32)**	1041	262	305	73	0.59	3.30	14.58	3.67	4.27

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V4000RPM **Static**

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	27	0.24	0.35	4.07	1.03	1.19
-30	**(-22)**	174	44	51	36	0.31	0.55	4.84	1.22	1.42
-25	**(-13)**	253	64	74	44	0.37	0.79	5.83	1.47	1.71
-20	**(- 4)**	352	89	103	50	0.42	1.11	7.00	1.76	2.05
-15	**(+ 5)**	472	119	138	57	0.46	1.49	8.29	2.09	2.43
-10	**(+14)**	617	155	181	64	0.51	1.95	9.65	2.43	2.83
-5	**(+23)**	788	199	231	71	0.57	2.49	11.03	2.78	3.23
0	**(+32)**	988	249	289	80	0.64	3.13	12.37	3.12	3.62

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V4000RPM **Static**

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	24	0.22	0.23	3.09	0.78	0.91
-30	**(-22)**	140	35	41	35	0.31	0.44	3.95	0.99	1.16
-25	**(-13)**	221	56	65	44	0.38	0.69	4.96	1.25	1.45
-20	**(- 4)**	319	80	94	52	0.44	1.00	6.09	1.54	1.79
-15	**(+ 5)**	437	110	128	60	0.50	1.38	7.28	1.84	2.13
-10	**(+14)**	576	145	169	68	0.56	1.82	8.48	2.14	2.48
-5	**(+23)**	739	186	217	77	0.63	2.34	9.62	2.43	2.82
0	**(+32)**	929	234	272	86	0.71	2.94	10.67	2.69	3.13

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 + 11° 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 45° up + 37° 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 + 57° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		