COMPRESSOR DEFINITION

Designation	**FMS Y9C**
Nominal Voltage/Frequency	**230 V 90-315 Hz**
Engineering Number	**518000037**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 90-315	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Hot Gas Defrost not allowed)		
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	1/7	[hp]
2 Displacement	6.51	[cm³] (0.397 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	18.800	
3 Lubricant charge	140	[ml] (4.73 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	3.58	[kg] (7.89 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 90-315 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF01F01 M	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CF01F01 M 00 XX F	
6 Start winding resistance	15.35	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	15.35	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (90/315 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (90/315 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (90/315 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - NOM - TUV - UKCA - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS:			**ASHRAELBP32**			Evaporating temperature		**-23.3°C (-9.94°F)**
@115V2800RPM			**Static**			(Condensing temperature		**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]
348	88	102	59	1.14	1.09	5.87	1.48	1.72

E - PERFORMANCE - CURVES

TEST CONDITIONS:		**ASHRAE32**					(Condensing temperature **35ºC (+95ºF))**			
@115V1800RPM		**Static**								
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)**	127	32	37	26	0.25	0.40	4.90	1.23	1.44
-30	**(-22)**	177	45	52	30	0.29	0.55	5.89	1.48	1.72
-25	**(-13)**	235	59	69	34	0.33	0.74	6.85	1.73	2.01
-20	**(- 4)**	305	77	89	39	0.37	0.96	7.88	1.99	2.31
-15	**(+ 5)**	387	97	113	43	0.41	1.22	9.03	2.27	2.64
-10	**(+14)**	484	122	142	47	0.44	1.53	10.37	2.61	3.04
-5	**(+23)**	599	151	176	50	0.47	1.89	11.98	3.02	3.51
0	**(+32)**	733	185	215	52	0.49	2.32	13.92	3.51	4.08

TEST CONDITIONS:		**ASHRAE32**					(Condensing temperature **45ºC (+113ºF))**			
@115V1800RPM		**Static**								
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)**	115	29	34	27	0.26	0.36	4.32	1.09	1.27
-30	**(-22)**	163	41	48	31	0.30	0.51	5.18	1.30	1.52
-25	**(-13)**	221	56	65	37	0.35	0.69	5.96	1.50	1.75
-20	**(- 4)**	290	73	85	43	0.41	0.91	6.75	1.70	1.98
-15	**(+ 5)**	372	94	109	49	0.46	1.17	7.60	1.92	2.23
-10	**(+14)**	470	118	138	55	0.52	1.48	8.60	2.17	2.52
-5	**(+23)**	586	148	172	60	0.57	1.85	9.81	2.47	2.88
0	**(+32)**	721	182	211	64	0.61	2.29	11.31	2.85	3.31

TEST CONDITIONS:		**ASHRAE32**					(Condensing temperature **55ºC (+131ºF))**			
@115V1800RPM		**Static**								
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)**	110	28	32	28	0.26	0.34	3.95	0.99	1.16
-30	**(-22)**	156	39	46	33	0.32	0.49	4.71	1.19	1.38
-25	**(-13)**	211	53	62	40	0.38	0.66	5.36	1.35	1.57
-20	**(- 4)**	279	70	82	47	0.45	0.87	5.95	1.50	1.74
-15	**(+ 5)**	360	91	105	55	0.52	1.13	6.56	1.65	1.92
-10	**(+14)**	457	115	134	63	0.60	1.44	7.25	1.83	2.13
-5	**(+23)**	573	144	168	71	0.67	1.81	8.11	2.04	2.38
0	**(+32)**	709	179	208	78	0.74	2.25	9.20	2.32	2.69

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V2800RPM **Static**

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)**	198	50	58	39	0.37	0.62	5.07	1.28	1.49
-30	**(-22)**	269	68	79	45	0.43	0.84	6.02	1.52	1.76
-25	**(-13)**	360	91	106	51	0.49	1.13	7.02	1.77	2.06
-20	**(- 4)**	472	119	138	58	0.56	1.48	8.12	2.05	2.38
-15	**(+ 5)**	604	152	177	65	0.62	1.90	9.33	2.35	2.73
-10	**(+14)**	757	191	222	71	0.68	2.39	10.69	2.69	3.13
-5	**(+23)**	932	235	273	76	0.72	2.95	12.22	3.08	3.58
0	**(+32)**	1129	284	331	80	0.75	3.58	13.95	3.52	4.09

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V2800RPM **Static**

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)**	186	47	55	40	0.38	0.58	4.66	1.18	1.37
-30	**(-22)**	253	64	74	47	0.44	0.79	5.46	1.38	1.60
-25	**(-13)**	341	86	100	54	0.52	1.07	6.27	1.58	1.84
-20	**(- 4)**	449	113	132	63	0.60	1.41	7.12	1.79	2.09
-15	**(+ 5)**	578	146	169	72	0.68	1.82	8.04	2.03	2.36
-10	**(+14)**	728	184	213	80	0.76	2.30	9.06	2.28	2.66
-5	**(+23)**	900	227	264	88	0.84	2.85	10.21	2.57	2.99
0	**(+32)**	1094	276	321	95	0.91	3.47	11.51	2.90	3.37

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V2800RPM **Static**

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)**	169	43	50	41	0.39	0.53	4.11	1.04	1.20
-30	**(-22)**	234	59	69	48	0.46	0.73	4.87	1.23	1.43
-25	**(-13)**	319	80	93	57	0.54	1.00	5.60	1.41	1.64
-20	**(- 4)**	424	107	124	67	0.64	1.33	6.32	1.59	1.85
-15	**(+ 5)**	551	139	161	78	0.74	1.74	7.06	1.78	2.07
-10	**(+14)**	699	176	205	89	0.85	2.21	7.85	1.98	2.30
-5	**(+23)**	869	219	255	100	0.95	2.75	8.72	2.20	2.56
0	**(+32)**	1061	267	311	109	1.05	3.36	9.70	2.44	2.84

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V4000RPM **Static**

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)**	284	72	83	56	0.53	0.89	5.06	1.28	1.48
-30	**(-22)**	391	99	115	66	0.66	1.23	5.90	1.49	1.73
-25	**(-13)**	518	130	152	77	0.76	1.62	6.78	1.71	1.99
-20	**(- 4)**	669	169	196	87	0.84	2.10	7.73	1.95	2.27
-15	**(+ 5)**	848	214	249	96	0.92	2.67	8.80	2.22	2.58
-10	**(+14)**	1060	267	311	106	1.00	3.34	10.01	2.52	2.93
-5	**(+23)**	1310	330	384	115	1.09	4.14	11.39	2.87	3.34
0	**(+32)**	1601	403	469	123	1.21	5.07	13.00	3.27	3.81

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V4000RPM **Static**

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)**	253	64	74	56	0.53	0.79	4.52	1.14	1.32
-30	**(-22)**	361	91	106	68	0.67	1.13	5.30	1.34	1.55
-25	**(-13)**	488	123	143	80	0.79	1.53	6.08	1.53	1.78
-20	**(- 4)**	638	161	187	93	0.90	2.00	6.88	1.73	2.02
-15	**(+ 5)**	815	205	239	105	1.00	2.57	7.74	1.95	2.27
-10	**(+14)**	1024	258	300	118	1.11	3.23	8.69	2.19	2.55
-5	**(+23)**	1269	320	372	130	1.24	4.01	9.77	2.46	2.86
0	**(+32)**	1555	392	456	142	1.40	4.93	11.01	2.77	3.23

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V4000RPM **Static**

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)**	227	57	67	56	0.53	0.71	4.04	1.02	1.18
-30	**(-22)**	336	85	98	69	0.69	1.05	4.83	1.22	1.41
-25	**(-13)**	462	116	135	83	0.83	1.45	5.55	1.40	1.63
-20	**(- 4)**	610	154	179	98	0.95	1.92	6.26	1.58	1.83
-15	**(+ 5)**	785	198	230	113	1.07	2.47	6.96	1.75	2.04
-10	**(+14)**	990	249	290	128	1.21	3.12	7.71	1.94	2.26
-5	**(+23)**	1230	310	360	144	1.37	3.89	8.54	2.15	2.50
0	**(+32)**	1510	380	442	160	1.56	4.79	9.48	2.39	2.78

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V6300RPM **Static**

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)**	423	107	124	93	0.90	1.33	4.57	1.15	1.34
-30	**(-22)**	574	145	168	112	1.00	1.80	5.16	1.30	1.51
-25	**(-13)**	772	195	226	130	1.16	2.42	5.95	1.50	1.74
-20	**(- 4)**	1001	252	293	144	1.36	3.14	6.92	1.74	2.03
-15	**(+ 5)**	1239	312	363	155	1.56	3.90	8.03	2.02	2.35
-10	**(+14)**	1469	370	431	160	1.73	4.63	9.25	2.33	2.71
-5	**(+23)**	1672	421	490	159	1.83	5.28	10.54	2.66	3.09
0	**(+32)**	1827	460	535	150	1.84	5.79	11.87	2.99	3.48

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V6300RPM **Static**

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)**	402	101	118	95	0.92	1.26	4.24	1.07	1.24
-30	**(-22)**	539	136	158	114	1.03	1.69	4.77	1.20	1.40
-25	**(-13)**	722	182	212	132	1.20	2.27	5.49	1.38	1.61
-20	**(- 4)**	931	235	273	146	1.40	2.93	6.36	1.60	1.86
-15	**(+ 5)**	1146	289	336	156	1.60	3.61	7.36	1.85	2.16
-10	**(+14)**	1350	340	396	160	1.77	4.26	8.45	2.13	2.48
-5	**(+23)**	1522	384	446	159	1.87	4.81	9.60	2.42	2.81
0	**(+32)**	1644	414	482	149	1.87	5.22	10.77	2.71	3.16

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V6300RPM **Static**

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)**	380	96	111	94	0.89	1.19	4.05	1.02	1.19
-30	**(-22)**	504	127	148	113	1.02	1.58	4.50	1.13	1.32
-25	**(-13)**	669	169	196	131	1.22	2.10	5.11	1.29	1.50
-20	**(- 4)**	857	216	251	145	1.44	2.69	5.87	1.48	1.72
-15	**(+ 5)**	1049	264	307	155	1.66	3.30	6.74	1.70	1.97
-10	**(+14)**	1224	309	359	160	1.84	3.86	7.68	1.93	2.25
-5	**(+23)**	1365	344	400	158	1.96	4.32	8.65	2.18	2.54
0	**(+32)**	1452	366	426	148	1.98	4.61	9.64	2.43	2.83

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard ES/FMS		
2 Tray holder	No		
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		
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		
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		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		