COMPRESSOR DEFINITION

Designation	**FMS A9C**
Nominal Voltage/Frequency	**230 V 90-315 Hz**
Engineering Number	**518000012**

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	17.50	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	17.50	[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 - TUV - UKCA - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V1800RPM**			**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]
235	59	69	39	0.32	0.74	6.06	1.53	1.78

TEST CONDITIONS: **@220V2800RPM**			**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]
351	88	103	57	0.47	1.10	6.14	1.55	1.80

TEST CONDITIONS: **@220V4000RPM**			**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]
515	130	151	85	0.63	1.62	6.08	1.53	1.78

TEST CONDITIONS: **@220V6300RPM**			**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]
734	185	215	133	0.97	2.30	5.53	1.39	1.62

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V1800RPM**		**ASHRAE32 Static**			(Condensing temperature **35ºC (+95ºF))**					
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	23	0.20	0.40	5.41	1.36	1.59
-30	**(-22)**	177	45	52	27	0.23	0.56	6.48	1.63	1.90
-25	**(-13)**	238	60	70	31	0.26	0.75	7.55	1.90	2.21
-20	**(- 4)**	310	78	91	36	0.30	0.97	8.70	2.19	2.55
-15	**(+ 5)**	396	100	116	40	0.33	1.25	9.98	2.52	2.93
-10	**(+14)**	497	125	146	43	0.36	1.57	11.47	2.89	3.36
-5	**(+23)**	614	155	180	46	0.38	1.94	13.22	3.33	3.87
0	**(+32)**	749	189	220	48	0.39	2.37	15.30	3.86	4.48

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V1800RPM **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)**	119	30	35	25	0.21	0.37	4.82	1.21	1.41
-30	**(-22)**	167	42	49	29	0.25	0.52	5.74	1.45	1.68
-25	**(-13)**	225	57	66	34	0.29	0.71	6.61	1.66	1.94
-20	**(- 4)**	296	74	87	39	0.33	0.93	7.48	1.88	2.19
-15	**(+ 5)**	379	95	111	45	0.37	1.19	8.42	2.12	2.47
-10	**(+14)**	477	120	140	50	0.41	1.51	9.50	2.39	2.78
-5	**(+23)**	592	149	173	55	0.45	1.87	10.78	2.72	3.16
0	**(+32)**	724	183	212	59	0.48	2.30	12.33	3.11	3.61

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V1800RPM **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)**	103	26	30	25	0.21	0.32	4.16	1.05	1.22
-30	**(-22)**	151	38	44	30	0.25	0.47	5.06	1.28	1.48
-25	**(-13)**	210	53	61	36	0.30	0.66	5.84	1.47	1.71
-20	**(- 4)**	280	71	82	43	0.35	0.88	6.55	1.65	1.92
-15	**(+ 5)**	363	91	106	50	0.41	1.14	7.28	1.83	2.13
-10	**(+14)**	461	116	135	57	0.46	1.45	8.08	2.04	2.37
-5	**(+23)**	575	145	169	64	0.51	1.82	9.01	2.27	2.64
0	**(+32)**	707	178	207	70	0.55	2.24	10.15	2.56	2.98

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V2800RPM **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)**	204	51	60	36	0.72	0.64	5.68	1.43	1.67
-30	**(-22)**	277	70	81	42	0.83	0.87	6.58	1.66	1.93
-25	**(-13)**	368	93	108	49	0.95	1.15	7.56	1.90	2.21
-20	**(- 4)**	479	121	140	55	1.07	1.50	8.64	2.18	2.53
-15	**(+ 5)**	611	154	179	62	1.19	1.92	9.86	2.48	2.89
-10	**(+14)**	766	193	225	68	1.29	2.42	11.25	2.83	3.30
-5	**(+23)**	947	239	278	74	1.38	2.99	12.84	3.24	3.76
0	**(+32)**	1154	291	338	78	1.45	3.66	14.67	3.70	4.30

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V2800RPM **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)**	191	48	56	37	0.74	0.60	5.13	1.29	1.50
-30	**(-22)**	260	65	76	44	0.87	0.81	5.88	1.48	1.72
-25	**(-13)**	347	87	102	52	1.01	1.09	6.66	1.68	1.95
-20	**(- 4)**	454	114	133	60	1.16	1.43	7.50	1.89	2.20
-15	**(+ 5)**	582	147	171	69	1.30	1.83	8.44	2.13	2.47
-10	**(+14)**	734	185	215	77	1.44	2.32	9.51	2.40	2.79
-5	**(+23)**	911	230	267	85	1.57	2.88	10.74	2.71	3.15
0	**(+32)**	1115	281	327	92	1.68	3.53	12.16	3.06	3.56

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V2800RPM **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)**	167	42	49	37	0.73	0.52	4.57	1.15	1.34
-30	**(-22)**	234	59	69	45	0.88	0.73	5.27	1.33	1.54
-25	**(-13)**	320	81	94	54	1.04	1.00	5.96	1.50	1.75
-20	**(- 4)**	426	107	125	64	1.21	1.34	6.68	1.68	1.96
-15	**(+ 5)**	553	139	162	74	1.39	1.74	7.44	1.88	2.18
-10	**(+14)**	703	177	206	85	1.56	2.22	8.29	2.09	2.43
-5	**(+23)**	879	222	258	95	1.73	2.78	9.26	2.33	2.71
0	**(+32)**	1082	273	317	105	1.88	3.43	10.37	2.61	3.04

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V4000RPM **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)**	288	73	84	53	0.43	0.90	5.42	1.37	1.59
-30	**(-22)**	403	101	118	63	0.51	1.26	6.35	1.60	1.86
-25	**(-13)**	530	134	155	73	0.58	1.66	7.25	1.83	2.13
-20	**(- 4)**	678	171	199	83	0.65	2.13	8.20	2.07	2.40
-15	**(+ 5)**	854	215	250	92	0.71	2.69	9.24	2.33	2.71
-10	**(+14)**	1066	269	312	102	0.78	3.36	10.41	2.62	3.05
-5	**(+23)**	1321	333	387	112	0.85	4.18	11.78	2.97	3.45
0	**(+32)**	1627	410	477	123	0.93	5.16	13.39	3.37	3.92

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V4000RPM **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)**	252	63	74	52	0.42	0.79	4.83	1.22	1.42
-30	**(-22)**	369	93	108	65	0.51	1.16	5.66	1.43	1.66
-25	**(-13)**	497	125	146	77	0.60	1.56	6.43	1.62	1.88
-20	**(- 4)**	645	162	189	89	0.69	2.03	7.22	1.82	2.11
-15	**(+ 5)**	819	206	240	102	0.77	2.58	8.06	2.03	2.36
-10	**(+14)**	1028	259	301	114	0.85	3.24	9.02	2.27	2.64
-5	**(+23)**	1279	322	375	126	0.94	4.04	10.13	2.55	2.97
0	**(+32)**	1579	398	463	139	1.03	5.01	11.46	2.89	3.36

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V4000RPM **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)**	213	54	62	49	0.40	0.67	4.33	1.09	1.27
-30	**(-22)**	333	84	98	65	0.51	1.05	5.11	1.29	1.50
-25	**(-13)**	464	117	136	80	0.62	1.46	5.82	1.47	1.71
-20	**(- 4)**	612	154	179	94	0.72	1.92	6.51	1.64	1.91
-15	**(+ 5)**	786	198	230	109	0.82	2.47	7.22	1.82	2.12
-10	**(+14)**	993	250	291	124	0.92	3.13	8.02	2.02	2.35
-5	**(+23)**	1240	313	363	138	1.02	3.92	8.95	2.26	2.62
0	**(+32)**	1536	387	450	154	1.13	4.87	10.07	2.54	2.95

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V6300RPM **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)**					0.00	0.00	0.00	0.00	0.00
-30	**(-22)**					0.00	0.00	0.00	0.00	0.00
-25	**(-13)**					0.00	0.00	0.00	0.00	0.00
-20	**(- 4)**					0.00	0.00	0.00	0.00	0.00
-15	**(+ 5)**					0.00	0.00	0.00	0.00	0.00
-10	**(+14)**					0.00	0.00	0.00	0.00	0.00
-5	**(+23)**					0.00	0.00	0.00	0.00	0.00
0	**(+32)**					0.00	0.00	0.00	0.00	0.00

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V6300RPM **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)**					0.00	0.00	0.00	0.00	0.00
-30	**(-22)**					0.00	0.00	0.00	0.00	0.00
-25	**(-13)**					0.00	0.00	0.00	0.00	0.00
-20	**(- 4)**					0.00	0.00	0.00	0.00	0.00
-15	**(+ 5)**					0.00	0.00	0.00	0.00	0.00
-10	**(+14)**					0.00	0.00	0.00	0.00	0.00
-5	**(+23)**					0.00	0.00	0.00	0.00	0.00
0	**(+32)**					0.00	0.00	0.00	0.00	0.00

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V6300RPM **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)**					0.00	0.00	0.00	0.00	0.00
-30	**(-22)**					0.00	0.00	0.00	0.00	0.00
-25	**(-13)**					0.00	0.00	0.00	0.00	0.00
-20	**(- 4)**					0.00	0.00	0.00	0.00	0.00
-15	**(+ 5)**					0.00	0.00	0.00	0.00	0.00
-10	**(+14)**					0.00	0.00	0.00	0.00	0.00
-5	**(+23)**					0.00	0.00	0.00	0.00	0.00
0	**(+32)**					0.00	0.00	0.00	0.00	0.00

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal ES/FMS		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted parallel to Base Plate		
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 parallet BP+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 parallel BP+45°to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		