COMPRESSOR DEFINITION

Designation	**FMS A9C**
Nominal Voltage/Frequency	**230 V 90-315 Hz**
Engineering Number	**518000060**

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 N	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CF01F01 N 00 XX	
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 (50/60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@115V1800RPM**			**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	0.75	0.74	5.99	1.51	1.76

TEST CONDITIONS: **@115V2800RPM**			**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	58	1.12	1.10	6.07	1.53	1.78

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]
515	130	151	86	1.51	1.62	6.02	1.52	1.76

TEST CONDITIONS: **@115V6300RPM**			**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	134	2.31	2.30	5.48	1.38	1.61

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@115V1800RPM**		**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	24	0.48	0.40	5.36	1.35	1.57
-30	**(-22)**	177	45	52	28	0.55	0.56	6.42	1.62	1.88
-25	**(-13)**	238	60	70	32	0.63	0.75	7.49	1.89	2.19
-20	**(- 4)**	310	78	91	36	0.71	0.97	8.62	2.17	2.53
-15	**(+ 5)**	396	100	116	40	0.79	1.25	9.88	2.49	2.90
-10	**(+14)**	497	125	146	44	0.86	1.57	11.35	2.86	3.33
-5	**(+23)**	614	155	180	47	0.91	1.94	13.08	3.30	3.83
0	**(+32)**	749	189	220	49	0.94	2.37	15.14	3.82	4.44

E - PERFORMANCE - CURVES

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)**	119	30	35	25	0.50	0.37	4.77	1.20	1.40
-30	**(-22)**	167	42	49	29	0.58	0.52	5.68	1.43	1.67
-25	**(-13)**	225	57	66	34	0.68	0.71	6.54	1.65	1.92
-20	**(- 4)**	296	74	87	40	0.78	0.93	7.40	1.86	2.17
-15	**(+ 5)**	379	95	111	45	0.88	1.19	8.33	2.10	2.44
-10	**(+14)**	477	120	140	51	0.98	1.51	9.39	2.37	2.75
-5	**(+23)**	592	149	173	56	1.06	1.87	10.66	2.69	3.12
0	**(+32)**	724	183	212	60	1.13	2.30	12.20	3.07	3.57

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)**	103	26	30	25	0.50	0.32	4.11	1.04	1.20
-30	**(-22)**	151	38	44	30	0.60	0.47	5.00	1.26	1.47
-25	**(-13)**	210	53	61	36	0.72	0.66	5.78	1.46	1.69
-20	**(- 4)**	280	71	82	43	0.84	0.88	6.49	1.63	1.90
-15	**(+ 5)**	363	91	106	50	0.97	1.14	7.21	1.82	2.11
-10	**(+14)**	461	116	135	57	1.09	1.45	8.00	2.02	2.34
-5	**(+23)**	575	145	169	64	1.21	1.82	8.93	2.25	2.62
0	**(+32)**	707	178	207	71	1.31	2.24	10.07	2.54	2.95

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)**	204	51	60	36	0.72	0.64	5.62	1.42	1.65
-30	**(-22)**	277	70	81	42	0.83	0.87	6.52	1.64	1.91
-25	**(-13)**	368	93	108	49	0.95	1.15	7.48	1.89	2.19
-20	**(- 4)**	479	121	140	56	1.07	1.50	8.55	2.16	2.51
-15	**(+ 5)**	611	154	179	63	1.19	1.92	9.76	2.46	2.86
-10	**(+14)**	766	193	225	69	1.29	2.42	11.14	2.81	3.26
-5	**(+23)**	947	239	278	74	1.38	2.99	12.72	3.21	3.73
0	**(+32)**	1154	291	338	79	1.45	3.66	14.53	3.66	4.26

E - PERFORMANCE - CURVES

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)**	191	48	56	38	0.74	0.60	5.07	1.28	1.49
-30	**(-22)**	260	65	76	45	0.87	0.81	5.82	1.47	1.70
-25	**(-13)**	347	87	102	53	1.01	1.09	6.59	1.66	1.93
-20	**(- 4)**	454	114	133	61	1.16	1.43	7.43	1.87	2.18
-15	**(+ 5)**	582	147	171	70	1.30	1.83	8.36	2.11	2.45
-10	**(+14)**	734	185	215	78	1.44	2.32	9.41	2.37	2.76
-5	**(+23)**	911	230	267	86	1.57	2.88	10.62	2.68	3.11
0	**(+32)**	1115	281	327	93	1.68	3.53	12.03	3.03	3.52

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)**	167	42	49	37	0.73	0.52	4.52	1.14	1.32
-30	**(-22)**	234	59	69	45	0.88	0.73	5.22	1.32	1.53
-25	**(-13)**	320	81	94	54	1.04	1.00	5.91	1.49	1.73
-20	**(- 4)**	426	107	125	64	1.21	1.34	6.62	1.67	1.94
-15	**(+ 5)**	553	139	162	75	1.39	1.74	7.37	1.86	2.16
-10	**(+14)**	703	177	206	86	1.56	2.22	8.21	2.07	2.41
-5	**(+23)**	879	222	258	96	1.73	2.78	9.16	2.31	2.68
0	**(+32)**	1082	273	317	106	1.88	3.43	10.26	2.58	3.01

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)**	288	73	84	54	1.02	0.90	5.37	1.35	1.57
-30	**(-22)**	403	101	118	64	1.20	1.26	6.29	1.58	1.84
-25	**(-13)**	530	134	155	74	1.38	1.66	7.19	1.81	2.11
-20	**(- 4)**	678	171	199	84	1.54	2.13	8.12	2.05	2.38
-15	**(+ 5)**	854	215	250	93	1.70	2.69	9.15	2.31	2.68
-10	**(+14)**	1066	269	312	103	1.86	3.36	10.31	2.60	3.02
-5	**(+23)**	1321	333	387	113	2.02	4.18	11.66	2.94	3.42
0	**(+32)**	1627	410	477	124	2.18	5.16	13.25	3.34	3.88

E - PERFORMANCE - CURVES

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)**	252	63	74	53	1.01	0.79	4.79	1.21	1.40
-30	**(-22)**	369	93	108	66	1.23	1.16	5.60	1.41	1.64
-25	**(-13)**	497	125	146	78	1.44	1.56	6.37	1.60	1.87
-20	**(- 4)**	645	162	189	90	1.65	2.03	7.15	1.80	2.09
-15	**(+ 5)**	819	206	240	103	1.85	2.58	7.98	2.01	2.34
-10	**(+14)**	1028	259	301	115	2.04	3.24	8.93	2.25	2.62
-5	**(+23)**	1279	322	375	128	2.24	4.04	10.03	2.53	2.94
0	**(+32)**	1579	398	463	141	2.44	5.01	11.34	2.86	3.32

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)**	213	54	62	50	0.96	0.67	4.29	1.08	1.26
-30	**(-22)**	333	84	98	65	1.23	1.05	5.06	1.28	1.48
-25	**(-13)**	464	117	136	80	1.48	1.46	5.76	1.45	1.69
-20	**(- 4)**	612	154	179	95	1.72	1.92	6.44	1.62	1.89
-15	**(+ 5)**	786	198	230	110	1.96	2.47	7.15	1.80	2.10
-10	**(+14)**	993	250	291	125	2.20	3.13	7.94	2.00	2.33
-5	**(+23)**	1240	313	363	140	2.43	3.92	8.86	2.23	2.60
0	**(+32)**	1536	387	450	155	2.67	4.87	9.96	2.51	2.92

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)**	414	104	121	86	1.61	1.30	4.80	1.21	1.41
-30	**(-22)**	566	143	166	102	1.87	1.77	5.58	1.41	1.63
-25	**(-13)**	753	190	221	119	2.16	2.36	6.32	1.59	1.85
-20	**(- 4)**	976	246	286	138	2.46	3.07	7.08	1.78	2.07
-15	**(+ 5)**	1237	312	362	157	2.75	3.89	7.88	1.99	2.31
-10	**(+14)**	1537	387	451	175	3.01	4.85	8.77	2.21	2.57
-5	**(+23)**	1879	474	551	192	3.23	5.94	9.78	2.46	2.87
0	**(+32)**	2263	570	663	206	3.38	7.17	10.96	2.76	3.21

E - PERFORMANCE - CURVES

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)**	380	96	111	87	1.61	1.19	4.37	1.10	1.28
-30	**(-22)**	529	133	155	105	1.91	1.66	5.06	1.28	1.48
-25	**(-13)**	708	178	207	124	2.23	2.22	5.73	1.44	1.68
-20	**(- 4)**	919	232	269	144	2.55	2.89	6.41	1.62	1.88
-15	**(+ 5)**	1164	293	341	163	2.84	3.66	7.15	1.80	2.09
-10	**(+14)**	1444	364	423	181	3.09	4.56	7.98	2.01	2.34
-5	**(+23)**	1761	444	516	197	3.28	5.57	8.95	2.25	2.62
0	**(+32)**	2116	533	620	209	3.39	6.71	10.09	2.54	2.96

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)**	346	87	101	85	1.60	1.08	4.07	1.02	1.19
-30	**(-22)**	499	126	146	107	1.96	1.57	4.65	1.17	1.36
-25	**(-13)**	679	171	199	130	2.33	2.13	5.23	1.32	1.53
-20	**(- 4)**	886	223	260	152	2.68	2.79	5.82	1.47	1.71
-15	**(+ 5)**	1123	283	329	173	2.99	3.54	6.48	1.63	1.90
-10	**(+14)**	1391	350	408	192	3.25	4.39	7.24	1.82	2.12
-5	**(+23)**	1691	426	496	208	3.43	5.35	8.14	2.05	2.39
0	**(+32)**	2026	510	594	219	3.52	6.42	9.23	2.33	2.71

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal ES/FMS		
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 75° up		
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 75° up		
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 75° up		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		