

### COMPRESSOR DEFINITION

Designation	FMS A11C
Nominal Voltage/Frequency	230 V 90-315 Hz
Engineering Number	518000009

### 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 Expansion 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	6.9	[kgf/cm <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	7.87	[cm <sup>3</sup> ] (0.480 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	19.800	
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/cm <sup>2</sup> ]

### C - ELETRICAL 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	CF02F01M	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CF02F01 M 0.0 XX F X	
6 Start winding resistance	17.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	17.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (90/315 Hz)	2.17	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (90/315 Hz)	1.25	[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 - NOM - TUV - UKCA - VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: <b>@220V1800RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]	
282	71	83	46	0.47	0.89	6.10	1.54	1.79	

TEST CONDITIONS: <b>@220V2800RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]	
430	108	126	70	0.69	1.35	6.14	1.55	1.80	

TEST CONDITIONS: <b>@220V4000RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]	
624	157	183	102	10.30	1.96	6.12	1.54	1.79	

TEST CONDITIONS: <b>@220V6300RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]	
900	227	264	164	1.52	2.83	5.49	1.38	1.61	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: <b>@220V1800RPM</b>		<b>ASHRAE32</b> <b>Static</b>				(Condensing temperature <b>35°C (+95°F)</b> )				
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]
<b>-35</b>	<b>(-31)</b>	167	42	49	29	0.31	0.52	5.82	1.47	1.70
<b>-30</b>	<b>(-22)</b>	222	56	65	33	0.36	0.70	6.65	1.67	1.95
<b>-25</b>	<b>(-13)</b>	289	73	85	38	0.41	0.91	7.54	1.90	2.21
<b>-20</b>	<b>(- 4)</b>	371	93	109	43	0.46	1.17	8.55	2.15	2.50
<b>-15</b>	<b>(+ 5)</b>	470	118	138	49	0.51	1.48	9.71	2.45	2.85
<b>-10</b>	<b>(+14)</b>	589	148	173	53	0.56	1.86	11.09	2.79	3.25
<b>-5</b>	<b>(+23)</b>	731	184	214	57	0.60	2.31	12.72	3.21	3.73
<b>0</b>	<b>(+32)</b>	899	227	263	61	0.64	2.85	14.66	3.69	4.30

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1800RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
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)	157	40	46	29	0.32	0.49	5.36	1.35	1.57
-30	(-22)	211	53	62	35	0.38	0.66	6.03	1.52	1.77
-25	(-13)	277	70	81	41	0.44	0.87	6.72	1.69	1.97
-20	(- 4)	358	90	105	48	0.51	1.13	7.47	1.88	2.19
-15	(+ 5)	458	115	134	55	0.57	1.44	8.32	2.10	2.44
-10	(+14)	578	146	169	62	0.64	1.82	9.33	2.35	2.73
-5	(+23)	722	182	212	69	0.71	2.28	10.55	2.66	3.09
0	(+32)	892	225	262	75	0.77	2.83	12.02	3.03	3.52

TEST CONDITIONS: @220V1800RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
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)	138	35	40	29	0.32	0.43	4.73	1.19	1.38
-30	(-22)	192	48	56	36	0.39	0.60	5.36	1.35	1.57
-25	(-13)	259	65	76	44	0.47	0.81	5.95	1.50	1.74
-20	(- 4)	342	86	100	52	0.55	1.07	6.55	1.65	1.92
-15	(+ 5)	444	112	130	61	0.64	1.40	7.21	1.82	2.11
-10	(+14)	567	143	166	71	0.72	1.79	7.98	2.01	2.34
-5	(+23)	715	180	210	80	0.81	2.26	8.89	2.24	2.61
0	(+32)	890	224	261	90	0.90	2.82	10.01	2.52	2.93

TEST CONDITIONS: @220V2800RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
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)	250	63	73	43	0.45	0.78	5.86	1.48	1.72
-30	(-22)	341	86	100	50	0.52	1.07	6.74	1.70	1.98
-25	(-13)	450	113	132	59	0.60	1.41	7.68	1.93	2.25
-20	(- 4)	580	146	170	67	0.69	1.82	8.69	2.19	2.55
-15	(+ 5)	735	185	215	75	0.77	2.31	9.82	2.48	2.88
-10	(+14)	919	231	269	83	0.84	2.90	11.09	2.80	3.25
-5	(+23)	1133	286	332	90	0.90	3.58	12.53	3.16	3.67
0	(+32)	1382	348	405	97	0.94	4.38	14.17	3.57	4.15

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2800RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
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)	236	59	69	45	0.48	0.74	5.28	1.33	1.55
-30	(-22)	319	80	94	54	0.55	1.00	5.96	1.50	1.75
-25	(-13)	422	106	124	63	0.64	1.33	6.69	1.69	1.96
-20	(- 4)	549	138	161	73	0.74	1.72	7.49	1.89	2.20
-15	(+ 5)	701	177	206	83	0.84	2.21	8.39	2.12	2.46
-10	(+14)	884	223	259	94	0.94	2.79	9.43	2.38	2.76
-5	(+23)	1099	277	322	104	1.03	3.47	10.62	2.68	3.11
0	(+32)	1350	340	396	113	1.10	4.28	12.00	3.02	3.52

TEST CONDITIONS: @220V2800RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
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)	212	53	62	45	0.47	0.66	4.75	1.20	1.39
-30	(-22)	291	73	85	55	0.55	0.91	5.30	1.34	1.55
-25	(-13)	391	98	115	67	0.66	1.23	5.89	1.49	1.73
-20	(- 4)	516	130	151	79	0.78	1.62	6.55	1.65	1.92
-15	(+ 5)	668	168	196	91	0.90	2.10	7.29	1.84	2.14
-10	(+14)	852	215	250	104	1.03	2.69	8.16	2.06	2.39
-5	(+23)	1070	270	314	117	1.15	3.38	9.17	2.31	2.69
0	(+32)	1326	334	389	129	1.26	4.20	10.37	2.61	3.04

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
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)	343	87	101	64	0.65	1.07	5.41	1.36	1.59
-30	(-22)	476	120	139	74	0.77	1.49	6.36	1.60	1.86
-25	(-13)	631	159	185	87	0.88	1.98	7.25	1.83	2.12
-20	(- 4)	813	205	238	100	0.99	2.56	8.14	2.05	2.39
-15	(+ 5)	1030	260	302	113	1.11	3.24	9.10	2.29	2.67
-10	(+14)	1285	324	377	126	1.23	4.05	10.17	2.56	2.98
-5	(+23)	1585	399	465	139	1.35	5.01	11.40	2.87	3.34
0	(+32)	1935	488	567	150	1.48	6.13	12.87	3.24	3.77

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
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)	314	79	92	62	0.65	0.98	5.02	1.27	1.47
-30	(-22)	446	112	131	77	0.79	1.40	5.76	1.45	1.69
-25	(-13)	599	151	176	93	0.92	1.88	6.48	1.63	1.90
-20	(- 4)	780	196	228	108	1.06	2.45	7.22	1.82	2.12
-15	(+ 5)	993	250	291	124	1.20	3.13	8.04	2.03	2.36
-10	(+14)	1245	314	365	138	1.34	3.93	9.00	2.27	2.64
-5	(+23)	1540	388	451	152	1.49	4.87	10.15	2.56	2.97
0	(+32)	1885	475	552	163	1.64	5.97	11.54	2.91	3.38

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
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)	279	70	82	61	0.63	0.87	4.56	1.15	1.34
-30	(-22)	412	104	121	79	0.80	1.29	5.19	1.31	1.52
-25	(-13)	566	143	166	97	0.96	1.78	5.82	1.47	1.71
-20	(- 4)	747	188	219	115	1.12	2.35	6.50	1.64	1.91
-15	(+ 5)	960	242	281	132	1.28	3.02	7.29	1.84	2.14
-10	(+14)	1210	305	355	147	1.44	3.82	8.23	2.07	2.41
-5	(+23)	1504	379	441	160	1.61	4.76	9.38	2.36	2.75
0	(+32)	1846	465	541	171	1.78	5.85	10.80	2.72	3.17

TEST CONDITIONS: @220V6300RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
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)	533	134	156	108	0.67	1.67	4.90	1.23	1.44
-30	(-22)	694	175	203	125	1.05	2.18	5.58	1.41	1.63
-25	(-13)	933	235	273	147	1.37	2.93	6.36	1.60	1.86
-20	(- 4)	1224	308	359	170	1.63	3.84	7.20	1.82	2.11
-15	(+ 5)	1540	388	451	191	1.82	4.85	8.10	2.04	2.37
-10	(+14)	1855	468	544	207	1.93	5.85	9.01	2.27	2.64
-5	(+23)	2144	540	628	216	1.95	6.78	9.92	2.50	2.91
0	(+32)	2381	600	698	214	1.88	7.55	10.80	2.72	3.16

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V6300RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
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)	490	123	143	109	1.03	1.53	4.52	1.14	1.32
-30	(-22)	644	162	189	129	1.30	2.02	5.06	1.28	1.48
-25	(-13)	874	220	256	153	1.54	2.74	5.72	1.44	1.68
-20	(- 4)	1153	290	338	177	1.73	3.62	6.48	1.63	1.90
-15	(+ 5)	1454	366	426	199	1.87	4.58	7.30	1.84	2.14
-10	(+14)	1753	442	514	216	1.95	5.53	8.16	2.06	2.39
-5	(+23)	2023	510	593	224	1.96	6.40	9.05	2.28	2.65
0	(+32)	2239	564	656	220	1.90	7.10	9.92	2.50	2.91

TEST CONDITIONS: @220V6300RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
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)	451	114	132	107	1.06	1.41	4.24	1.07	1.24
-30	(-22)	596	150	175	130	1.29	1.87	4.66	1.17	1.36
-25	(-13)	813	205	238	156	1.50	2.55	5.21	1.31	1.53
-20	(- 4)	1077	271	315	182	1.69	3.38	5.88	1.48	1.72
-15	(+ 5)	1361	343	399	204	1.85	4.28	6.65	1.67	1.95
-10	(+14)	1640	413	481	220	1.97	5.17	7.47	1.88	2.19
-5	(+23)	1888	476	553	227	2.03	5.97	8.34	2.10	2.44
0	(+32)	2079	524	609	221	2.04	6.60	9.22	2.32	2.70

### 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 parallel 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		