

### COMPRESSOR DEFINITION

Designation	F F16HAK
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513200704

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[ V / Hz ]	
4 Application type	Low-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°F)	
5 Motor type	RSIR/CSIR		
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)	Static/Fan	-	98 to 135 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	98 to 135 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	6.23	[cm <sup>3</sup> ] (0.380 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	18.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10.62	[kg] (23.41 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516272/213516583	
3 Start capacitor	161-193(120)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM762NFBZZ-53	
6 Start winding resistance	8.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.60	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	24.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	IRAM - TUV - UL	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]	
680	171	199	160	2.32	3.86	4.25	1.07	1.25	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	357	90	105	94	1.81	2.02	3.77	0.95	1.11
-30	(-22)	516	130	151	127	2.05	2.93	4.06	1.02	1.19
-25	(-13)	681	172	199	152	2.22	3.87	4.51	1.14	1.32
-20	(- 4)	878	221	257	171	2.34	5.00	5.14	1.29	1.51
-15	(+ 5)	1134	286	332	190	2.46	6.47	5.94	1.50	1.74
-10	(+14)	1476	372	433	211	2.60	8.46	6.93	1.75	2.03
-5	(+23)	1931	487	566	239	2.79	11.11	8.12	2.05	2.38

TEST CONDITIONS: @115V60Hz		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)	297	75	87	94	2.03	1.68	3.18	0.80	0.93
-30	(-22)	455	115	133	126	2.20	2.58	3.59	0.91	1.05
-25	(-13)	614	155	180	152	2.31	3.49	4.08	1.03	1.20
-20	(- 4)	800	202	234	173	2.40	4.55	4.65	1.17	1.36
-15	(+ 5)	1040	262	305	196	2.51	5.94	5.31	1.34	1.56
-10	(+14)	1361	343	399	222	2.65	7.80	6.07	1.53	1.78
-5	(+23)	1790	451	524	257	2.86	10.30	6.93	1.75	2.03

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 65°C (+149°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)	209	53	61	96	1.97	1.18	2.18	0.55	0.64
-30	(-22)	375	94	110	126	2.12	2.13	2.84	0.72	0.83
-25	(-13)	535	135	157	151	2.24	3.04	3.50	0.88	1.03
-20	(- 4)	717	181	210	174	2.36	4.08	4.15	1.05	1.22
-15	(+ 5)	949	239	278	200	2.51	5.42	4.80	1.21	1.41
-10	(+14)	1256	317	368	231	2.72	7.20	5.45	1.37	1.60
-5	(+23)	1666	420	488	272	3.02	9.58	6.12	1.54	1.79

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
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 plated steel		
3.1.2 Shape	Slanted		
3.2 DISCHARGE	5 +0.18/-0.06	[mm]	(0.197" +0.007"/-0.002")
3.2.1 Material	Copper plated steel		
3.2.2 Shape	Slanted		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper plated steel		
3.3.2 Shape	Slanted		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		