

### COMPRESSOR DEFINITION

Designation	F F112HBX
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513201068

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	High Back Pressure		
4.1 Evaporating temperature range	-5°C to 15°C	(23°F to 59°F)	
5 Motor type	CSIR		
6 Starting torque	HST - Hight starting torque		
7 Expansion device	Capillary tube or Expansion valve		
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)	Fan	198 to 255 V	-
8.4 HBP (43°C Ambient temperature)	Fan	198 to 255 V	-
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	1/3+	[hp]
2 Displacement	11.14	[cm <sup>3</sup> ] (0.680 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	21.000	
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)	10.95	[kg] (24.14 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516450	
3 Start capacitor	88-108(250)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757UFBYY-53	
6 Start winding resistance	17.45	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	19.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	3.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	4.10	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - UKCA	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAEHBP32 Fan		Evaporating temperature (Condensing temperature		7.2°C (44.96°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]
4330	1091	1269	499	2.83		8.68	2.19	2.54

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))				
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]
-5 (+23)	2667	672	781	386	2.40	15.34	6.91	1.74	2.03
0 (+32)	3348	844	981	401	2.48	19.34	8.37	2.11	2.45
+5 (+41)	4123	1039	1208	425	2.58	23.98	9.71	2.45	2.84
+10 (+50)	4990	1257	1462	456	2.70	29.24	10.93	2.75	3.20
+15 (+59)	5950	1499	1743	494	2.84	35.13	12.04	3.03	3.53

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))				
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]
-5 (+23)	2574	649	754	413	2.49	14.81	6.24	1.57	1.83
0 (+32)	3249	819	952	438	2.60	18.77	7.42	1.87	2.17
+5 (+41)	4005	1009	1174	472	2.74	23.29	8.49	2.14	2.49
+10 (+50)	4843	1220	1419	512	2.90	28.37	9.45	2.38	2.77
+15 (+59)	5761	1452	1688	560	3.08	34.01	10.30	2.60	3.02

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 65°C (+149°F))				
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]
-5 (+23)	2411	607	706	437	2.57	13.87	5.51	1.39	1.62
0 (+32)	3072	774	900	475	2.73	17.74	6.47	1.63	1.90
+5 (+41)	3803	958	1114	520	2.92	22.11	7.32	1.85	2.15
+10 (+50)	4603	1160	1349	571	3.13	26.97	8.07	2.03	2.36
+15 (+59)	5473	1379	1604	629	3.36	32.31	8.70	2.19	2.55

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		