

### COMPRESSOR DEFINITION

Designation	F F112HBX
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513209428

### 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-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 10°C	(-31°F to 50°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)	Fan	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Fan	-	103 to 140 V
8.3 HBP (32°C Ambient temperature)	Fan	-	103 to 140 V
8.4 HBP (43°C Ambient temperature)	Fan	-	103 to 140 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)	11.52	[kg] (25.40 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	213516051	
3 Start capacitor	233-280(150)/378-454(110)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRT22AFZ-5590	
6 Start winding resistance	3.87	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.04	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	43.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	7.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	8.10	[A] - Measured according to UL 984
11 Approval boards certification	CCC - CE - TUV - UKCA - UL	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAEHBP32 Fan		Evaporating temperature (Condensing temperature)		7.2°C (44.96°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]
5300	1336	1553	612	6.80		8.66	2.18	2.54

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Fan		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]
1190	300	349	292	4.65	6.76	4.08	1.03	1.20

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	657	166	192	212	4.71	3.71	3.07	0.77	0.90
-30 (-22)	871	220	255	247	4.79	4.95	3.59	0.90	1.05
-25 (-13)	1165	294	341	283	4.91	6.63	4.19	1.06	1.23
-20 (- 4)	1545	389	453	320	5.06	8.79	4.87	1.23	1.43
-15 (+ 5)	2014	508	590	360	5.24	11.49	5.60	1.41	1.64
-10 (+14)	2579	650	756	402	5.47	14.76	6.39	1.61	1.87
-5 (+23)	3245	818	951	447	5.73	18.66	7.21	1.82	2.11
0 (+32)	4016	1012	1177	495	6.04	23.22	8.07	2.03	2.36
+5 (+41)	4898	1234	1435	545	6.40	28.51	8.94	2.25	2.62
+10 (+50)	5896	1486	1728	600	6.80	34.56	9.83	2.48	2.88
+15 (+59)	7016	1768	2056	658	7.26	41.41	10.71	2.70	3.14

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	535	135	157	201	4.70	3.02	2.61	0.66	0.77
-30 (-22)	745	188	218	241	4.79	4.24	3.14	0.79	0.92
-25 (-13)	1037	261	304	282	4.92	5.90	3.73	0.94	1.09
-20 (- 4)	1414	356	414	326	5.09	8.05	4.38	1.10	1.28
-15 (+ 5)	1883	475	552	372	5.30	10.74	5.08	1.28	1.49
-10 (+14)	2449	617	718	421	5.56	14.01	5.81	1.46	1.70
-5 (+23)	3116	785	913	472	5.87	17.92	6.58	1.66	1.93
0 (+32)	3891	980	1140	527	6.23	22.50	7.35	1.85	2.16
+5 (+41)	4777	1204	1400	586	6.65	27.80	8.14	2.05	2.38
+10 (+50)	5781	1457	1694	648	7.12	33.88	8.92	2.25	2.61
+15 (+59)	6907	1741	2024	715	7.66	40.77	9.68	2.44	2.84

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	415	105	122	181	4.68	2.35	2.21	0.56	0.65
-30	(-22)	617	155	181	227	4.78	3.51	2.74	0.69	0.80
-25	(-13)	901	227	264	275	4.92	5.13	3.32	0.84	0.97
-20	(- 4)	1273	321	373	326	5.12	7.24	3.95	0.99	1.16
-15	(+ 5)	1737	438	509	379	5.37	9.90	4.61	1.16	1.35
-10	(+14)	2299	579	674	435	5.67	13.15	5.30	1.33	1.55
-5	(+23)	2964	747	869	495	6.03	17.04	6.00	1.51	1.76
0	(+32)	3737	942	1095	559	6.46	21.61	6.70	1.69	1.96
+5	(+41)	4624	1165	1355	626	6.94	26.91	7.40	1.86	2.17
+10	(+50)	5629	1419	1649	697	7.49	32.99	8.07	2.03	2.37
+15	(+59)	6758	1703	1980	773	8.11	39.89	8.72	2.20	2.56

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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		