

COMPRESSOR DEFINITION

Designation	F F8,5BKW
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513200831

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
3 Nominal voltage and frequency	220 / 60	[V / Hz]	
4 Application type	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°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	-	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 to 242 V
8.3 HBP (32°C Ambient temperature)	Fan	-	198 to 242 V
8.4 HBP (43°C Ambient temperature)	Fan	-	198 to 242 V
9 Maximum condensing temperature			
9.1 Operating	14.5	[kgf/cm ²] (206 psig)	/ °C - °F
9.2 Peak	18.2	[kgf/cm ²] (259 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	7.95	[cm ³] (0.485 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO32	
4 Weight (with oil charge)	10.83	[kg] (23.88 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516230/213516345	
3 Start capacitor	88-108(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757LFBYY-53	
6 Start winding resistance	24.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	18.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.80	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
3080	776	903	417	2.40	23.06	7.39	1.86	2.17

TEST CONDITIONS: @220V60Hz			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]
850	214	249	225	1.70	6.22	3.78	0.95	1.11

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			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)	500	126	146	150	1.48	3.64	3.26	0.82	0.96
-30 (-22)	645	163	189	183	1.58	4.72	3.53	0.89	1.03
-25 (-13)	827	208	242	216	1.67	6.05	3.87	0.97	1.13
-20 (- 4)	1049	264	307	247	1.77	7.68	4.27	1.08	1.25
-15 (+ 5)	1316	332	385	279	1.87	9.66	4.75	1.20	1.39
-10 (+14)	1632	411	478	310	1.98	12.02	5.28	1.33	1.55
-5 (+23)	2003	505	587	341	2.10	14.82	5.88	1.48	1.72
0 (+32)	2433	613	713	372	2.22	18.08	6.53	1.65	1.91
+5 (+41)	2925	737	857	403	2.36	21.86	7.24	1.82	2.12
+10 (+50)	3486	879	1022	435	2.51	26.20	8.00	2.02	2.34
+15 (+59)	4119	1038	1207	468	2.67	31.14	8.81	2.22	2.58

TEST CONDITIONS: @220V60Hz			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)	451	114	132	150	1.48	3.28	3.03	0.76	0.89
-30 (-22)	595	150	174	183	1.58	4.35	3.29	0.83	0.97
-25 (-13)	774	195	227	216	1.67	5.67	3.63	0.92	1.06
-20 (- 4)	992	250	291	247	1.77	7.28	4.04	1.02	1.18
-15 (+ 5)	1256	316	368	279	1.87	9.23	4.52	1.14	1.32
-10 (+14)	1568	395	459	310	1.98	11.55	5.05	1.27	1.48
-5 (+23)	1933	487	567	341	2.10	14.31	5.65	1.42	1.66
0 (+32)	2357	594	691	372	2.22	17.52	6.31	1.59	1.85
+5 (+41)	2843	716	833	403	2.36	21.25	7.02	1.77	2.06
+10 (+50)	3396	856	995	435	2.51	25.53	7.79	1.96	2.28
+15 (+59)	4022	1013	1178	468	2.67	30.41	8.60	2.17	2.52

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	441	111	129	150	1.48	3.21	2.84	0.72	0.83
-30	(-22)	562	142	165	183	1.58	4.12	3.07	0.77	0.90
-25	(-13)	718	181	210	216	1.67	5.26	3.37	0.85	0.99
-20	(- 4)	913	230	268	247	1.77	6.70	3.74	0.94	1.09
-15	(+ 5)	1152	290	337	279	1.87	8.46	4.17	1.05	1.22
-10	(+14)	1439	363	422	310	1.98	10.60	4.67	1.18	1.37
-5	(+23)	1778	448	521	341	2.10	13.15	5.23	1.32	1.53
0	(+32)	2175	548	637	372	2.22	16.17	5.85	1.47	1.71
+5	(+41)	2634	664	772	403	2.36	19.69	6.52	1.64	1.91
+10	(+50)	3159	796	926	435	2.51	23.75	7.25	1.83	2.12
+15	(+59)	3755	946	1100	468	2.67	28.40	8.02	2.02	2.35

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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	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)	6.5 +0.09/-0.09	[mm]	(0.256" +0.004"/-0.004")
3.5 Connector sealing	Rubber Plugs		