

COMPRESSOR DEFINITION

Designation	F F8,5HBKW
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513207778

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 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	-	103 to 135 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 135 V
8.3 HBP (32°C Ambient temperature)	Fan	-	103 to 135 V
8.4 HBP (43°C Ambient temperature)	Fan	-	103 to 135 V
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 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	335	[ml] (11.33 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10.7	[kg] (23.59 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516167/213516175	
3 Start capacitor	270-324(115)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRT22GZ-5590	
6 Start winding resistance	8.96	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.73	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	34.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.25	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.95	[A] - Measured according to UL 984
11 Approval boards certification	CE - 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]
3135	790	919	407	4.40		7.70	1.94	2.26

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]
740	186	217	198	2.88	4.20	3.74	0.94	1.10

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)	374	94	110	149	2.80	2.12	2.51	0.63	0.73
-30 (-22)	512	129	150	171	2.85	2.91	3.03	0.76	0.89
-25 (-13)	695	175	204	195	2.94	3.95	3.61	0.91	1.06
-20 (- 4)	929	234	272	221	3.06	5.29	4.25	1.07	1.25
-15 (+ 5)	1221	308	358	248	3.21	6.96	4.96	1.25	1.45
-10 (+14)	1577	397	462	276	3.39	9.02	5.74	1.45	1.68
-5 (+23)	2004	505	587	305	3.59	11.52	6.59	1.66	1.93
0 (+32)	2509	632	735	334	3.80	14.51	7.53	1.90	2.21
+5 (+41)	3098	781	908	362	4.02	18.04	8.55	2.16	2.51
+10 (+50)	3778	952	1107	390	4.23	22.15	9.67	2.44	2.83
+15 (+59)	4556	1148	1335	417	4.45	26.90	10.89	2.74	3.19

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)	359	91	105	136	2.66	2.03	2.56	0.65	0.75
-30 (-22)	496	125	145	160	2.72	2.83	3.04	0.77	0.89
-25 (-13)	671	169	197	187	2.82	3.82	3.55	0.89	1.04
-20 (- 4)	890	224	261	218	2.97	5.07	4.08	1.03	1.20
-15 (+ 5)	1160	292	340	250	3.17	6.62	4.65	1.17	1.36
-10 (+14)	1488	375	436	284	3.39	8.51	5.25	1.32	1.54
-5 (+23)	1880	474	551	319	3.65	10.80	5.90	1.49	1.73
0 (+32)	2343	590	687	356	3.92	13.54	6.60	1.66	1.93
+5 (+41)	2883	727	845	393	4.22	16.78	7.35	1.85	2.15
+10 (+50)	3508	884	1028	431	4.53	20.56	8.16	2.06	2.39
+15 (+59)	4224	1064	1238	468	4.84	24.93	9.04	2.28	2.65

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)	250	63	73	130	2.74	1.41	2.07	0.52	0.61
-30	(-22)	408	103	120	155	2.78	2.32	2.64	0.67	0.77
-25	(-13)	596	150	175	184	2.87	3.40	3.20	0.81	0.94
-20	(- 4)	822	207	241	216	3.02	4.69	3.75	0.94	1.10
-15	(+ 5)	1093	275	320	252	3.22	6.24	4.30	1.08	1.26
-10	(+14)	1414	356	414	290	3.47	8.09	4.85	1.22	1.42
-5	(+23)	1792	452	525	331	3.76	10.30	5.42	1.37	1.59
0	(+32)	2235	563	655	373	4.08	12.92	6.00	1.51	1.76
+5	(+41)	2748	692	805	417	4.42	15.99	6.60	1.66	1.93
+10	(+50)	3339	841	978	462	4.80	19.56	7.23	1.82	2.12
+15	(+59)	4013	1011	1176	508	5.19	23.69	7.90	1.99	2.31

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