

COMPRESSOR DEFINITION

Designation	F F8,5BK
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513200115

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 pressures/temperature			
9.1 Operating (gauge)	14.5	[kgf/cm ²] (206 psig)	/ °C - °F
9.2 Peak (gauge)	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	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO32	
4 Weight (with oil charge)	10.6	[kg] (23.37 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	213516442/213516469	
3 Start capacitor	88-108(150)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRP59AML-5590	
6 Start winding resistance	39.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.90	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	15.00	[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)	-	[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	458	2.27	23.06	6.72	1.69	1.97

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	228	1.49	6.22	3.73	0.94	1.09

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			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)	491	124	144	153	2.81	3.58	3.13	0.79	0.92
-30 (-22)	632	159	185	180	2.85	4.62	3.47	0.88	1.02
-25 (-13)	799	201	234	210	2.91	5.85	3.81	0.96	1.12
-20 (- 4)	1001	252	293	242	3.01	7.34	4.17	1.05	1.22
-15 (+ 5)	1247	314	365	276	3.14	9.15	4.56	1.15	1.34
-10 (+14)	1544	389	452	310	3.30	11.37	5.01	1.26	1.47
-5 (+23)	1900	479	557	345	3.49	14.05	5.53	1.39	1.62
0 (+32)	2324	586	681	378	3.72	17.28	6.15	1.55	1.80
+5 (+41)	2825	712	828	409	3.98	21.11	6.89	1.74	2.02
+10 (+50)	3409	859	999	439	4.28	25.63	7.76	1.96	2.27
+15 (+59)	4087	1030	1198	464	4.61	30.90	8.78	2.21	2.57

TEST CONDITIONS: @220V60Hz			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)	443	112	130	160	2.81	3.22	2.84	0.72	0.83
-30 (-22)	597	150	175	185	2.85	4.37	3.24	0.82	0.95
-25 (-13)	774	195	227	215	2.92	5.67	3.61	0.91	1.06
-20 (- 4)	983	248	288	247	3.03	7.21	3.97	1.00	1.16
-15 (+ 5)	1231	310	361	283	3.19	9.05	4.35	1.10	1.27
-10 (+14)	1528	385	448	320	3.38	11.26	4.76	1.20	1.39
-5 (+23)	1880	474	551	358	3.61	13.91	5.22	1.32	1.53
0 (+32)	2297	579	673	396	3.89	17.08	5.75	1.45	1.69
+5 (+41)	2787	702	817	434	4.21	20.84	6.38	1.61	1.87
+10 (+50)	3358	846	984	471	4.57	25.25	7.12	1.79	2.09
+15 (+59)	4019	1013	1178	506	4.97	30.38	7.99	2.01	2.34

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	417	105	122	159	2.81	3.03	2.57	0.65	0.75
-30	(-22)	554	140	162	186	2.85	4.06	2.94	0.74	0.86
-25	(-13)	711	179	208	218	2.94	5.21	3.26	0.82	0.96
-20	(- 4)	897	226	263	254	3.08	6.58	3.56	0.90	1.04
-15	(+ 5)	1118	282	328	295	3.27	8.22	3.84	0.97	1.12
-10	(+14)	1385	349	406	338	3.50	10.20	4.13	1.04	1.21
-5	(+23)	1704	429	499	384	3.79	12.60	4.45	1.12	1.30
0	(+32)	2085	525	611	431	4.12	15.49	4.82	1.21	1.41
+5	(+41)	2534	639	743	479	4.50	18.94	5.25	1.32	1.54
+10	(+50)	3062	772	897	527	4.94	23.02	5.78	1.46	1.69
+15	(+59)	3675	926	1077	574	5.42	27.80	6.42	1.62	1.88

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F		
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		