

**COMPRESSOR DEFINITION**

Designation	<b>F F8,5HBK</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>513200878</b>

**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	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	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 V	-
8.3 HBP (32°C Ambient temperature)	Fan	187 to 255 V	-
8.4 HBP (43°C Ambient temperature)	Fan	187 to 255 V	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

**B - MECHANICAL DATA**

1 Commercial designation	1/4	[hp]
2 Displacement	7.95	[cm <sup>3</sup> ] (0.485 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	10.000	
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)	10.77	[kg] (23.74 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device		
3 Start capacitor	88-108(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRP61AMZ-5590	
6 Start winding resistance	24.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.60	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	18.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	2.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.35	[A] - Measured according to UL 984
11 Approval boards certification	CCC - UL	

**D - PERFORMANCE - CHECK POINT DATA**

TEST CONDITIONS: @220V50Hz			<b>ASHRAEHBP32</b> Static		Evaporating temperature	7.2°C (44.96°F)		
					(Condensing temperature)	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]
2880	726	844	339	2.00		8.50	2.14	2.49

TEST CONDITIONS: @220V50Hz			<b>ASHRAEHBP32</b> Fan		Evaporating temperature	7.2°C (44.96°F)		
					(Condensing temperature)	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]
2880	726	844	339	2.00		8.50	2.14	2.49

TEST CONDITIONS: @220V50Hz			<b>ASHRAELBP32</b> Static		Evaporating temperature	-23.3°C (-9.94°F)		
					(Condensing temperature)	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]
662	167	194	174	1.45	3.76	3.80	0.96	1.11

TEST CONDITIONS: @220V50Hz			<b>ASHRAELBP32</b> Fan		Evaporating temperature	-23.3°C (-9.94°F)		
					(Condensing temperature)	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]
662	167	194	174	1.45	3.76	3.80	0.96	1.11

**E - PERFORMANCE - CURVES**

TEST CONDITIONS: @220V50Hz		<b>ASHRAE32</b> 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]
-35	(-31)	347	87	102	122	1.35	1.96	2.77	0.70	0.81
-30	(-22)	470	119	138	141	1.38	2.67	3.34	0.84	0.98
-25	(-13)	637	161	187	163	1.43	3.62	3.96	1.00	1.16
-20	(- 4)	851	214	249	185	1.48	4.84	4.63	1.17	1.36
-15	(+ 5)	1115	281	327	208	1.55	6.35	5.37	1.35	1.57
-10	(+14)	1432	361	420	232	1.62	8.19	6.20	1.56	1.82
-5	(+23)	1807	455	529	255	1.69	10.39	7.11	1.79	2.08
0	(+32)	2243	565	657	277	1.77	12.97	8.12	2.05	2.38
+5	(+41)	2743	691	804	298	1.84	15.96	9.24	2.33	2.71
+10	(+50)	3311	834	970	316	1.92	19.41	10.48	2.64	3.07
+15	(+59)	3951	996	1158	333	1.99	23.32	11.85	2.99	3.47

**E - PERFORMANCE - CURVES**

TEST CONDITIONS: @220V50Hz		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)	276	70	81	121	1.35	1.56	2.32	0.58	0.68
-30	(-22)	401	101	118	141	1.38	2.28	2.91	0.73	0.85
-25	(-13)	568	143	167	164	1.43	3.23	3.52	0.89	1.03
-20	(- 4)	780	197	229	189	1.49	4.44	4.16	1.05	1.22
-15	(+ 5)	1041	262	305	215	1.56	5.94	4.83	1.22	1.42
-10	(+14)	1354	341	397	242	1.65	7.75	5.55	1.40	1.63
-5	(+23)	1722	434	505	270	1.74	9.90	6.33	1.59	1.85
0	(+32)	2150	542	630	298	1.84	12.43	7.17	1.81	2.10
+5	(+41)	2641	666	774	325	1.94	15.37	8.10	2.04	2.37
+10	(+50)	3198	806	937	351	2.05	18.74	9.11	2.30	2.67
+15	(+59)	3825	964	1121	375	2.15	22.58	10.23	2.58	3.00

TEST CONDITIONS: @220V50Hz		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)	229	58	67	115	1.34	1.29	1.94	0.49	0.57
-30	(-22)	346	87	101	137	1.38	1.97	2.55	0.64	0.75
-25	(-13)	503	127	147	162	1.43	2.86	3.14	0.79	0.92
-20	(- 4)	703	177	206	191	1.50	4.00	3.72	0.94	1.09
-15	(+ 5)	951	240	279	221	1.58	5.42	4.31	1.09	1.26
-10	(+14)	1249	315	366	254	1.69	7.14	4.92	1.24	1.44
-5	(+23)	1601	403	469	287	1.80	9.20	5.55	1.40	1.63
0	(+32)	2010	507	589	322	1.93	11.62	6.22	1.57	1.82
+5	(+41)	2482	625	727	356	2.06	14.44	6.94	1.75	2.03
+10	(+50)	3018	760	884	391	2.20	17.68	7.72	1.94	2.26
+15	(+59)	3622	913	1061	424	2.35	21.38	8.56	2.16	2.51

**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		
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		
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		
3.3.2 Shape	Slanted		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		