

COMPRESSOR DEFINITION

Designation	F F7,5HBK
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513201621

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115 / 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/Fan	-	103 to 135 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	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 pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5+	[hp]
2 Displacement	6.92	[cm ³] (0.422 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	385	[ml] (13.02 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10.59	[kg] (23.35 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 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516094/213516132	
3 Start capacitor	270-324(115)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	5TM771NFBZZ-53	
6 Start winding resistance	11.51	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.20	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	25.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.00	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAEHBP32 Static		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]	
2760	696	809	352	3.64		7.84	1.98	2.30	

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]	
2760	696	809	352	3.64		7.84	1.98	2.30	

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]	
630	159	185	168	2.30	3.58	3.75	0.95	1.10	

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]	
630	159	185	168	2.30	3.58	3.75	0.95	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]
-35	(-31)	323	81	95	113	1.97	1.83	2.80	0.71	0.82
-30	(-22)	446	112	131	134	2.08	2.54	3.32	0.84	0.97
-25	(-13)	606	153	178	157	2.21	3.45	3.88	0.98	1.14
-20	(- 4)	809	204	237	181	2.36	4.60	4.51	1.14	1.32
-15	(+ 5)	1061	267	311	206	2.52	6.05	5.20	1.31	1.52
-10	(+14)	1371	345	402	232	2.68	7.84	5.97	1.50	1.75
-5	(+23)	1743	439	511	257	2.86	10.02	6.83	1.72	2.00
0	(+32)	2186	551	641	282	3.04	12.64	7.79	1.96	2.28
+5	(+41)	2706	682	793	306	3.23	15.75	8.86	2.23	2.60
+10	(+50)	3309	834	969	329	3.41	19.40	10.04	2.53	2.94
+15	(+59)	4002	1008	1173	350	3.60	23.63	11.36	2.86	3.33

E - PERFORMANCE - CURVES

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)	260	66	76	112	2.01	1.47	2.29	0.58	0.67
-30	(-22)	393	99	115	134	2.11	2.24	2.86	0.72	0.84
-25	(-13)	556	140	163	159	2.24	3.17	3.43	0.86	1.01
-20	(- 4)	754	190	221	185	2.40	4.30	4.02	1.01	1.18
-15	(+ 5)	996	251	292	214	2.57	5.68	4.63	1.17	1.36
-10	(+14)	1287	324	377	243	2.77	7.36	5.28	1.33	1.55
-5	(+23)	1635	412	479	274	3.00	9.40	5.96	1.50	1.75
0	(+32)	2047	516	600	305	3.23	11.83	6.71	1.69	1.97
+5	(+41)	2528	637	741	337	3.49	14.71	7.52	1.89	2.20
+10	(+50)	3085	777	904	369	3.76	18.08	8.40	2.12	2.46
+15	(+59)	3726	939	1092	400	4.04	21.99	9.37	2.36	2.75

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)	136	34	40	101	1.94	0.76	1.59	0.40	0.47
-30	(-22)	282	71	83	125	2.04	1.61	2.26	0.57	0.66
-25	(-13)	451	114	132	152	2.18	2.58	2.88	0.73	0.85
-20	(- 4)	650	164	190	182	2.35	3.71	3.48	0.88	1.02
-15	(+ 5)	884	223	259	214	2.57	5.05	4.05	1.02	1.19
-10	(+14)	1161	293	340	250	2.81	6.64	4.62	1.16	1.35
-5	(+23)	1488	375	436	287	3.09	8.55	5.18	1.31	1.52
0	(+32)	1872	472	548	326	3.40	10.82	5.75	1.45	1.69
+5	(+41)	2318	584	679	366	3.74	13.48	6.35	1.60	1.86
+10	(+50)	2834	714	830	407	4.10	16.61	6.97	1.76	2.04
+15	(+59)	3426	863	1004	449	4.49	20.23	7.63	1.92	2.24

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	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		