

COMPRESSOR DEFINITION

Designation	F GS125HAS
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513200859

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	100 / 50-60	[V / Hz]	
4 Application type	Low-Medium (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 5°C	(-31°F to 41°F)	
5 Motor type	CSCR		
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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
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	1/3+	[hp]
2 Displacement	11.14	[cm ³] (0.680 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	21.000	
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)	11.52	[kg] (25.40 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	100 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M4R7MB3/8EA14B11/8EA14D7	
3 Start capacitor	378-454(120)	[µF(VAC minimum)]
4 Run capacitor	20(170)	[µF(VAC minimum)]
5 Motor protection	MST22AIN-5590	
6 Start winding resistance	3.48	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.06	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	34.50/31.38	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	6.03/5.24	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	7.08/6.41	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			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]
1074	271	315	246	4.32	6.10	4.37	1.10	1.28

TEST CONDITIONS: @100V60Hz			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]
1256	317	368	255	3.10	7.14	4.92	1.24	1.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°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)	594	150	174	182	4.83	3.36	3.26	0.82	0.95
-30 (-22)	839	211	246	205	4.70	4.76	4.08	1.03	1.20
-25 (-13)	1126	284	330	229	4.71	6.40	4.92	1.24	1.44
-20 (- 4)	1470	370	431	255	4.81	8.36	5.78	1.46	1.69
-15 (+ 5)	1882	474	551	282	4.97	10.74	6.68	1.68	1.96
-10 (+14)	2374	598	696	310	5.16	13.60	7.66	1.93	2.25
-5 (+23)	2960	746	867	339	5.35	17.03	8.73	2.20	2.56
0 (+32)	3651	920	1070	368	5.50	21.12	9.91	2.50	2.90
+5 (+41)	4460	1124	1307	397	5.57	25.94	11.23	2.83	3.29

TEST CONDITIONS: @100V50Hz			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)	536	135	157	182	4.56	3.03	2.95	0.74	0.86
-30 (-22)	776	195	227	207	4.44	4.40	3.74	0.94	1.10
-25 (-13)	1057	266	310	234	4.47	6.00	4.51	1.14	1.32
-20 (- 4)	1392	351	408	264	4.61	7.92	5.29	1.33	1.55
-15 (+ 5)	1794	452	526	295	4.83	10.23	6.09	1.53	1.78
-10 (+14)	2274	573	666	328	5.10	13.02	6.93	1.75	2.03
-5 (+23)	2845	717	834	362	5.37	16.37	7.85	1.98	2.30
0 (+32)	3520	887	1031	397	5.63	20.36	8.85	2.23	2.59
+5 (+41)	4311	1086	1263	433	5.82	25.07	9.96	2.51	2.92

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	446	112	131	175	4.54	2.52	2.54	0.64	0.75	
-30 (-22)	682	172	200	204	4.40	3.87	3.33	0.84	0.97	
-25 (-13)	957	241	280	235	4.42	5.44	4.07	1.03	1.19	
-20 (- 4)	1284	324	376	269	4.58	7.31	4.79	1.21	1.40	
-15 (+ 5)	1675	422	491	305	4.83	9.56	5.51	1.39	1.61	
-10 (+14)	2143	540	628	343	5.14	12.28	6.26	1.58	1.83	
-5 (+23)	2701	681	791	383	5.48	15.54	7.04	1.77	2.06	
0 (+32)	3359	847	984	425	5.81	19.43	7.90	1.99	2.31	
+5 (+41)	4132	1041	1211	468	6.10	24.03	8.83	2.23	2.59	

TEST CONDITIONS: @100V50Hz		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)	326	82	95	163	4.76	1.84	2.00	0.51	0.59	
-30 (-22)	557	140	163	196	4.57	3.17	2.81	0.71	0.82	
-25 (-13)	827	208	242	231	4.56	4.70	3.55	0.90	1.04	
-20 (- 4)	1145	289	336	270	4.70	6.52	4.25	1.07	1.25	
-15 (+ 5)	1527	385	447	311	4.96	8.71	4.92	1.24	1.44	
-10 (+14)	1983	500	581	355	5.29	11.35	5.60	1.41	1.64	
-5 (+23)	2526	637	740	402	5.66	14.53	6.29	1.58	1.84	
0 (+32)	3169	799	929	451	6.05	18.33	7.02	1.77	2.06	
+5 (+41)	3924	989	1150	502	6.41	22.82	7.82	1.97	2.29	

TEST CONDITIONS: @100V60Hz		ASHRAE32 Fan			(Condensing temperature 35°C (+95°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)	701	177	205	174	3.08	3.97	4.02	1.01	1.18	
-30 (-22)	975	246	286	203	3.12	5.53	4.81	1.21	1.41	
-25 (-13)	1301	328	381	235	3.30	7.39	5.56	1.40	1.63	
-20 (- 4)	1692	426	496	270	3.59	9.62	6.29	1.59	1.84	
-15 (+ 5)	2162	545	633	307	3.95	12.33	7.04	1.77	2.06	
-10 (+14)	2725	687	798	347	4.35	15.61	7.83	1.97	2.29	
-5 (+23)	3395	855	995	389	4.77	19.54	8.67	2.19	2.54	
0 (+32)	4185	1055	1226	434	5.15	24.21	9.60	2.42	2.81	
+5 (+41)	5111	1288	1498	482	5.48	29.72	10.64	2.68	3.12	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		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)	620	156	182	169	2.84	3.50	3.65	0.92	1.07
-30	(-22)	900	227	264	203	2.90	5.11	4.43	1.12	1.30
-25	(-13)	1227	309	359	239	3.12	6.97	5.14	1.30	1.51
-20	(- 4)	1614	407	473	279	3.47	9.18	5.82	1.47	1.70
-15	(+ 5)	2075	523	608	322	3.91	11.84	6.47	1.63	1.90
-10	(+14)	2623	661	769	367	4.40	15.03	7.14	1.80	2.09
-5	(+23)	3274	825	959	416	4.93	18.84	7.83	1.97	2.30
0	(+32)	4040	1018	1184	468	5.44	23.37	8.59	2.16	2.52
+5	(+41)	4936	1244	1446	524	5.91	28.70	9.42	2.37	2.76

TEST CONDITIONS: @100V60Hz		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)	498	126	146	158	2.78	2.82	3.14	0.79	0.92
-30	(-22)	785	198	230	196	2.84	4.46	3.95	1.00	1.16
-25	(-13)	1114	281	326	238	3.08	6.33	4.67	1.18	1.37
-20	(- 4)	1498	377	439	283	3.46	8.52	5.31	1.34	1.56
-15	(+ 5)	1950	491	571	332	3.95	11.13	5.91	1.49	1.73
-10	(+14)	2485	626	728	384	4.52	14.23	6.49	1.64	1.90
-5	(+23)	3117	786	913	441	5.13	17.93	7.08	1.78	2.07
0	(+32)	3860	973	1131	501	5.75	22.32	7.69	1.94	2.25
+5	(+41)	4726	1191	1385	565	6.35	27.48	8.36	2.11	2.45

TEST CONDITIONS: @100V60Hz		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)	337	85	99	139	2.90	1.90	2.46	0.62	0.72
-30	(-22)	631	159	185	183	2.94	3.59	3.34	0.84	0.98
-25	(-13)	963	243	282	230	3.17	5.47	4.09	1.03	1.20
-20	(- 4)	1343	339	394	282	3.57	7.64	4.74	1.19	1.39
-15	(+ 5)	1788	451	524	338	4.09	10.20	5.32	1.34	1.56
-10	(+14)	2311	582	677	398	4.71	13.23	5.85	1.47	1.71
-5	(+23)	2925	737	857	462	5.39	16.82	6.36	1.60	1.86
0	(+32)	3644	918	1068	531	6.09	21.07	6.87	1.73	2.01
+5	(+41)	4482	1130	1313	604	6.79	26.06	7.40	1.86	2.17

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		