

### COMPRESSOR DEFINITION

Designation	<b>F GS100HA</b>
Nominal Voltage/Frequency	<b>220-240 V 50-60 Hz</b>
Engineering Number	<b>513200389</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50-60	[ V / Hz ]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSCR		
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 255 V	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	198 to 242 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
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	1/3	[hp]
2 Displacement	9.04	[cm <sup>3</sup> ] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
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)	11.4	[kg] (25.13 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 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA5B3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(330)	[µF(VAC minimum)]
5 Motor protection	4TM276RFBYY-53	
6 Start winding resistance	10.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.00/9.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.75/1.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - TUV	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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	167	0.97	4.83	5.10	1.29	1.49

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]
1065	268	312	201	0.93	6.05	5.29	1.33	1.55

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	450	113	132	116	0.62	2.55	3.87	0.97	1.13
-30	(-22)	641	162	188	135	0.76	3.64	4.72	1.19	1.38
-25	(-13)	849	214	249	156	0.88	4.82	5.44	1.37	1.59
-20	(- 4)	1093	275	320	179	0.99	6.22	6.12	1.54	1.79
-15	(+ 5)	1391	350	408	202	1.09	7.94	6.87	1.73	2.01
-10	(+14)	1762	444	516	226	1.20	10.10	7.77	1.96	2.28

TEST CONDITIONS: @220V50Hz			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)	371	94	109	115	0.59	2.10	3.24	0.82	0.95
-30	(-22)	565	142	166	136	0.75	3.20	4.13	1.04	1.21
-25	(-13)	773	195	227	160	0.90	4.39	4.84	1.22	1.42
-20	(- 4)	1014	256	297	186	1.03	5.77	5.47	1.38	1.60
-15	(+ 5)	1306	329	383	213	1.15	7.46	6.11	1.54	1.79
-10	(+14)	1669	421	489	242	1.28	9.56	6.87	1.73	2.01

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	293	74	86	107	0.56	1.66	2.74	0.69	0.80	
-30 (-22)	487	123	143	130	0.74	2.76	3.67	0.93	1.08	
-25 (-13)	692	175	203	158	0.91	3.93	4.38	1.10	1.28	
-20 (- 4)	928	234	272	188	1.07	5.28	4.96	1.25	1.45	
-15 (+ 5)	1213	306	355	220	1.22	6.92	5.52	1.39	1.62	
-10 (+14)	1565	394	459	254	1.38	8.97	6.14	1.55	1.80	

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)	544	137	160	137	0.65	3.08	3.98	1.00	1.17	
-30 (-22)	790	199	231	162	0.75	4.48	4.85	1.22	1.42	
-25 (-13)	1052	265	308	189	0.86	5.97	5.59	1.41	1.64	
-20 (- 4)	1350	340	396	216	0.98	7.68	6.26	1.58	1.83	
-15 (+ 5)	1706	430	500	246	1.11	9.74	6.94	1.75	2.03	
-10 (+14)	2140	539	627	277	1.25	12.26	7.69	1.94	2.25	

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)	453	114	133	131	0.62	2.56	3.46	0.87	1.01	
-30 (-22)	701	177	205	161	0.74	3.97	4.33	1.09	1.27	
-25 (-13)	963	243	282	191	0.87	5.47	5.03	1.27	1.47	
-20 (- 4)	1260	317	369	224	1.01	7.17	5.63	1.42	1.65	
-15 (+ 5)	1612	406	472	260	1.17	9.20	6.21	1.56	1.82	
-10 (+14)	2039	514	598	298	1.35	11.68	6.82	1.72	2.00	

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)	355	89	104	123	0.59	2.00	2.88	0.73	0.85	
-30 (-22)	599	151	176	155	0.71	3.40	3.79	0.96	1.11	
-25 (-13)	855	216	251	190	0.86	4.86	4.50	1.13	1.32	
-20 (- 4)	1144	288	335	227	1.02	6.51	5.07	1.28	1.48	
-15 (+ 5)	1486	375	436	267	1.20	8.48	5.57	1.40	1.63	
-10 (+14)	1902	479	557	312	1.40	10.90	6.08	1.53	1.78	

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper plated steel		
3.1.2 Shape	Slanted		
3.2 DISCHARGE	5 +0.18/-0.06	[mm]	(0.197" +0.007"/-0.002")
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		