

### COMPRESSOR DEFINITION

Designation	<b>F GS80HA</b>
Nominal Voltage/Frequency	<b>220-240 V 50-60 Hz</b>
Engineering Number	<b>513200378</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	1/4	[hp]
2 Displacement	7.15	[cm <sup>3</sup> ] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	11.52	[kg] (25.40 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	7M220MD3/8EA17C3/8EA5B3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM189RHBYY-53	
6 Start winding resistance	15.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	7.50/6.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.10/1.00	[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 - IRAM - UL - VDE	

### 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]	
695	175	204	132	0.65	3.95	5.27	1.33	1.54	

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]	
825	208	242	155	0.72	4.69	5.32	1.34	1.56	

### 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)	358	90	105	87	0.48	2.02	4.10	1.03	1.20	
-30 (-22)	492	124	144	103	0.55	2.79	4.79	1.21	1.40	
-25 (-13)	670	169	196	120	0.62	3.81	5.63	1.42	1.65	
-20 (- 4)	893	225	262	136	0.69	5.08	6.58	1.66	1.93	
-15 (+ 5)	1160	292	340	152	0.76	6.62	7.61	1.92	2.23	
-10 (+14)	1472	371	431	170	0.84	8.44	8.67	2.19	2.54	

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)	298	75	87	86	0.47	1.69	3.49	0.88	1.02	
-30 (-22)	433	109	127	104	0.56	2.45	4.16	1.05	1.22	
-25 (-13)	608	153	178	123	0.64	3.45	4.94	1.25	1.45	
-20 (- 4)	825	208	242	142	0.72	4.70	5.79	1.46	1.70	
-15 (+ 5)	1085	273	318	162	0.81	6.19	6.67	1.68	1.96	
-10 (+14)	1387	349	406	184	0.90	7.95	7.56	1.90	2.21	

### 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)	230	58	67	81	0.46	1.30	2.85	0.72	0.84	
-30 (-22)	362	91	106	102	0.55	2.05	3.54	0.89	1.04	
-25 (-13)	531	134	156	123	0.64	3.02	4.29	1.08	1.26	
-20 (- 4)	740	186	217	146	0.74	4.21	5.07	1.28	1.48	
-15 (+ 5)	988	249	289	170	0.84	5.64	5.83	1.47	1.71	
-10 (+14)	1276	321	374	195	0.96	7.31	6.55	1.65	1.92	

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)	412	104	121	100	0.47	2.33	4.09	1.03	1.20	
-30 (-22)	593	149	174	121	0.57	3.36	4.87	1.23	1.43	
-25 (-13)	807	203	236	142	0.67	4.58	5.67	1.43	1.66	
-20 (- 4)	1061	267	311	164	0.77	6.04	6.50	1.64	1.90	
-15 (+ 5)	1367	345	401	186	0.87	7.81	7.36	1.85	2.16	
-10 (+14)	1734	437	508	210	0.98	9.94	8.27	2.08	2.42	

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)	353	89	104	100	0.47	2.00	3.57	0.90	1.05	
-30 (-22)	510	129	150	121	0.57	2.89	4.23	1.07	1.24	
-25 (-13)	702	177	206	144	0.67	3.99	4.90	1.23	1.44	
-20 (- 4)	939	237	275	169	0.79	5.35	5.58	1.41	1.63	
-15 (+ 5)	1231	310	361	196	0.92	7.03	6.28	1.58	1.84	
-10 (+14)	1587	400	465	225	1.05	9.09	7.02	1.77	2.06	

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)	282	71	83	93	0.44	1.60	3.02	0.76	0.89	
-30 (-22)	425	107	124	116	0.54	2.41	3.66	0.92	1.07	
-25 (-13)	606	153	178	141	0.66	3.44	4.29	1.08	1.26	
-20 (- 4)	835	211	245	169	0.79	4.75	4.92	1.24	1.44	
-15 (+ 5)	1123	283	329	201	0.94	6.41	5.56	1.40	1.63	
-10 (+14)	1478	372	433	237	1.11	8.47	6.22	1.57	1.82	

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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		
3.1.2 Shape	Straight		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-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		