

### COMPRESSOR DEFINITION

Designation	<b>F GS80HA</b>
Nominal Voltage/Frequency	<b>220-240 V 50-60 Hz</b>
Engineering Number	<b>513200069</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 / ISO22	
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	136	0.68	3.95	5.11	1.29	1.50

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	160	0.73	4.69	5.16	1.30	1.51

### 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)	374	94	110	94	0.49	2.12	3.97	1.00	1.16
-30 (-22)	551	139	162	111	0.56	3.12	4.95	1.25	1.45
-25 (-13)	733	185	215	127	0.64	4.16	5.77	1.45	1.69
-20 (- 4)	938	236	275	144	0.72	5.34	6.51	1.64	1.91
-15 (+ 5)	1187	299	348	162	0.81	6.78	7.31	1.84	2.14
-10 (+14)	1501	378	440	180	0.90	8.60	8.28	2.09	2.43

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)	313	79	92	92	0.48	1.77	3.40	0.86	1.00
-30 (-22)	494	124	145	111	0.57	2.80	4.39	1.11	1.29
-25 (-13)	674	170	197	131	0.65	3.82	5.16	1.30	1.51
-20 (- 4)	873	220	256	151	0.74	4.97	5.82	1.47	1.70
-15 (+ 5)	1111	280	325	172	0.83	6.34	6.48	1.63	1.90
-10 (+14)	1408	355	413	193	0.93	8.07	7.25	1.83	2.13

### 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]
-35	(-31)	229	58	67	84	0.45	1.30	2.75	0.69	0.80
-30	(-22)	415	105	122	107	0.55	2.36	3.78	0.95	1.11
-25	(-13)	596	150	175	131	0.66	3.38	4.54	1.14	1.33
-20	(- 4)	790	199	232	155	0.76	4.50	5.14	1.29	1.51
-15	(+ 5)	1019	257	299	180	0.87	5.82	5.69	1.43	1.67
-10	(+14)	1302	328	381	205	0.98	7.46	6.32	1.59	1.85

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]
-35	(-31)	436	110	128	107	0.50	2.47	4.09	1.03	1.20
-30	(-22)	647	163	189	130	0.61	3.67	4.91	1.24	1.44
-25	(-13)	879	221	257	154	0.72	4.99	5.69	1.43	1.67
-20	(- 4)	1144	288	335	177	0.83	6.51	6.45	1.63	1.89
-15	(+ 5)	1454	366	426	202	0.94	8.30	7.21	1.82	2.11
-10	(+14)	1819	458	533	227	1.05	10.42	8.01	2.02	2.35

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]
-35	(-31)	376	95	110	106	0.49	2.13	3.54	0.89	1.04
-30	(-22)	555	140	163	129	0.60	3.15	4.28	1.08	1.25
-25	(-13)	763	192	224	154	0.71	4.33	4.96	1.25	1.45
-20	(- 4)	1011	255	296	180	0.84	5.75	5.63	1.42	1.65
-15	(+ 5)	1312	331	384	209	0.97	7.49	6.30	1.59	1.85
-10	(+14)	1675	422	491	239	1.10	9.60	7.00	1.77	2.05

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]
-35	(-31)	297	75	87	99	0.46	1.68	2.99	0.75	0.88
-30	(-22)	454	114	133	123	0.57	2.57	3.68	0.93	1.08
-25	(-13)	647	163	190	150	0.70	3.68	4.32	1.09	1.27
-20	(- 4)	889	224	260	180	0.84	5.06	4.94	1.25	1.45
-15	(+ 5)	1190	300	349	214	0.99	6.79	5.57	1.40	1.63
-10	(+14)	1561	393	457	250	1.15	8.94	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 plated steel		
3.1.2 Shape	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		