

COMPRESSOR DEFINITION

Designation	F GS70HA
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513200539

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 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 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	6.36	[cm ³] (0.388 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.000	
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)	11.48	[kg] (25.31 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA1B3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	20(180)	[µF(VAC minimum)]
5 Motor protection	4TM283ULBYY-53	
6 Start winding resistance	3.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.42	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	10.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.90	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	IRAM - UL	

D - PERFORMANCE - CHECK POINT DATA

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]
705	178	207	136	1.20	4.01	5.20	1.31	1.52

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			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)	381	96	112	95	0.83	2.16	4.04	1.02	1.18
-30 (-22)	544	137	159	111	0.99	3.08	4.89	1.23	1.43
-25 (-13)	739	186	217	129	1.14	4.20	5.74	1.45	1.68
-20 (- 4)	976	246	286	147	1.29	5.55	6.61	1.67	1.94
-15 (+ 5)	1260	318	369	167	1.45	7.19	7.53	1.90	2.21
-10 (+14)	1601	403	469	188	1.63	9.17	8.51	2.14	2.49

TEST CONDITIONS: @115V60Hz			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)	320	81	94	91	0.81	1.81	3.49	0.88	1.02
-30 (-22)	474	119	139	110	0.99	2.68	4.29	1.08	1.26
-25 (-13)	658	166	193	131	1.16	3.74	5.06	1.27	1.48
-20 (- 4)	883	222	259	153	1.34	5.02	5.81	1.46	1.70
-15 (+ 5)	1154	291	338	176	1.53	6.59	6.56	1.65	1.92
-10 (+14)	1479	373	433	202	1.75	8.47	7.32	1.85	2.15

TEST CONDITIONS: @115V60Hz			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)	218	55	64	84	0.75	1.24	2.61	0.66	0.77
-30 (-22)	373	94	109	105	0.94	2.11	3.51	0.89	1.03
-25 (-13)	557	140	163	128	1.14	3.16	4.33	1.09	1.27
-20 (- 4)	780	197	229	153	1.35	4.44	5.10	1.28	1.49
-15 (+ 5)	1048	264	307	181	1.58	5.98	5.82	1.47	1.71
-10 (+14)	1369	345	401	210	1.83	7.84	6.51	1.64	1.91

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F		
2 Tray holder	Yes		
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		