

COMPRESSOR DEFINITION

Designation	F G85HAK
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513200079

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[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	CSIR		
6 Starting torque	LST/HST - Low/High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Fan	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Fan	198 to 255 V	-
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	1/4+	[hp]
2 Displacement	9.04	[cm ³] (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)	10.89	[kg] (24.01 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516302	
3 Start capacitor	64-77(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRA58120-5590	
6 Start winding resistance	19.45	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	10.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.65	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - CE - IRAM - UKCA	

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]
775	195	227	189	1.20	4.40	4.10	1.03	1.20

TEST CONDITIONS: @220V50Hz			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]
775	195	227	189	1.20	4.40	4.10	1.03	1.20

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	419	106	123	130	1.02	2.37	3.21	0.81	0.94
-30 (-22)	573	144	168	151	1.08	3.25	3.80	0.96	1.11
-25 (-13)	757	191	222	173	1.15	4.30	4.39	1.11	1.29
-20 (- 4)	979	247	287	196	1.23	5.57	5.00	1.26	1.47
-15 (+ 5)	1248	314	366	221	1.32	7.12	5.65	1.42	1.66
-10 (+14)	1572	396	461	247	1.42	9.01	6.36	1.60	1.86

TEST CONDITIONS: @220V50Hz			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)	359	90	105	131	1.03	2.03	2.76	0.70	0.81
-30 (-22)	514	129	151	154	1.09	2.91	3.34	0.84	0.98
-25 (-13)	696	175	204	179	1.17	3.95	3.89	0.98	1.14
-20 (- 4)	915	231	268	206	1.27	5.21	4.43	1.12	1.30
-15 (+ 5)	1178	297	345	236	1.39	6.73	4.99	1.26	1.46
-10 (+14)	1495	377	438	268	1.51	8.57	5.57	1.40	1.63

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	291	73	85	117	0.99	1.65	2.48	0.62	0.73
-30	(-22)	441	111	129	144	1.06	2.50	3.04	0.77	0.89
-25	(-13)	615	155	180	173	1.15	3.49	3.54	0.89	1.04
-20	(- 4)	824	208	242	206	1.26	4.69	4.00	1.01	1.17
-15	(+ 5)	1076	271	315	242	1.40	6.14	4.45	1.12	1.30
-10	(+14)	1378	347	404	282	1.56	7.90	4.90	1.23	1.43

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		