

COMPRESSOR DEFINITION

Designation	EG Y80HLC
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513700094

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	100 / 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	85 to 110 V	85 to 110 V
8.2 LBP (43°C Ambient temperature)	Static	85 to 110 V	85 to 110 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	1/4	[hp]
2 Displacement	6.76	[cm ³] (0.413 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.000	
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)	11.37	[kg] (25.07 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	100 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M4R7MD3/8M4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM437NFBYY-53	
6 Start winding resistance	6.05	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.95	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	16.00/14.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.30/2.10	[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		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			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]
680	171	199	123	1.53	3.86	5.52	1.39	1.62

TEST CONDITIONS: @100V60Hz			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]
815	205	239	146	1.55	4.63	5.57	1.40	1.63

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			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)	359	90	105	87	1.23	2.03	4.11	1.04	1.20
-30 (-22)	505	127	148	101	1.36	2.86	4.96	1.25	1.45
-25 (-13)	674	170	198	115	1.48	3.83	5.87	1.48	1.72
-20 (- 4)	878	221	257	128	1.60	5.00	6.85	1.73	2.01
-15 (+ 5)	1127	284	330	142	1.72	6.44	7.91	1.99	2.32
-10 (+14)	1432	361	420	158	1.86	8.20	9.06	2.28	2.65

TEST CONDITIONS: @100V50Hz			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)	318	80	93	84	1.23	1.80	3.76	0.95	1.10
-30 (-22)	458	116	134	103	1.38	2.60	4.46	1.12	1.31
-25 (-13)	622	157	182	120	1.52	3.53	5.20	1.31	1.52
-20 (- 4)	818	206	240	137	1.66	4.66	5.99	1.51	1.76
-15 (+ 5)	1059	267	310	155	1.82	6.05	6.85	1.73	2.01
-10 (+14)	1355	342	397	174	2.00	7.76	7.78	1.96	2.28

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	243	61	71	75	1.18	1.37	3.22	0.81	0.94	
-30 (-22)	380	96	111	98	1.35	2.16	3.84	0.97	1.13	
-25 (-13)	540	136	158	120	1.52	3.07	4.49	1.13	1.32	
-20 (- 4)	733	185	215	142	1.71	4.17	5.18	1.31	1.52	
-15 (+ 5)	969	244	284	164	1.90	5.53	5.92	1.49	1.73	
-10 (+14)	1259	317	369	188	2.13	7.21	6.71	1.69	1.97	

TEST CONDITIONS: @100V60Hz		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)	414	104	121	97	1.07	2.34	4.27	1.08	1.25	
-30 (-22)	599	151	176	116	1.28	3.40	5.17	1.30	1.51	
-25 (-13)	809	204	237	135	1.48	4.60	6.01	1.51	1.76	
-20 (- 4)	1058	267	310	155	1.68	6.02	6.85	1.73	2.01	
-15 (+ 5)	1358	342	398	175	1.87	7.75	7.76	1.96	2.27	
-10 (+14)	1723	434	505	195	2.06	9.88	8.79	2.22	2.58	

TEST CONDITIONS: @100V60Hz		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)	357	90	105	91	1.05	2.02	3.90	0.98	1.14	
-30 (-22)	538	136	158	114	1.27	3.05	4.71	1.19	1.38	
-25 (-13)	742	187	217	137	1.51	4.21	5.41	1.36	1.59	
-20 (- 4)	981	247	287	162	1.76	5.58	6.08	1.53	1.78	
-15 (+ 5)	1268	320	372	187	2.02	7.24	6.77	1.71	1.98	
-10 (+14)	1617	408	474	214	2.29	9.26	7.54	1.90	2.21	

TEST CONDITIONS: @100V60Hz		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)	286	72	84	85	1.00	1.62	3.36	0.85	0.99	
-30 (-22)	464	117	136	110	1.23	2.63	4.15	1.05	1.22	
-25 (-13)	661	167	194	137	1.49	3.75	4.80	1.21	1.41	
-20 (- 4)	890	224	261	166	1.78	5.06	5.37	1.35	1.57	
-15 (+ 5)	1164	293	341	197	2.09	6.64	5.92	1.49	1.74	
-10 (+14)	1497	377	439	229	2.44	8.58	6.52	1.64	1.91	

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		