

COMPRESSOR DEFINITION

Designation	EG U80HLC
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513700034

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	7.15	[cm ³] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	11.26	[kg] (24.82 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	490D314R7/7M4R7MD3/8EA21C3/8EA3B3/8M4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	20(180)	[µF(VAC minimum)]
5 Motor protection	4TM319RFBYY-53	
6 Start winding resistance	3.15	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.05	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	13.00/11.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.50/1.90	[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	UL	

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]
700	176	205	129	1.43	3.98	5.43	1.37	1.59

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]
820	207	240	151	1.54	4.66	5.43	1.37	1.59

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)	391	99	115	88	1.06	2.21	4.38	1.10	1.28
-30	(-22)	500	126	147	102	1.19	2.83	4.98	1.25	1.46
-25	(-13)	675	170	198	119	1.34	3.83	5.74	1.45	1.68
-20	(- 4)	907	229	266	137	1.51	5.16	6.64	1.67	1.94
-15	(+ 5)	1185	299	347	154	1.68	6.77	7.66	1.93	2.24
-10	(+14)	1498	378	439	171	1.83	8.59	8.78	2.21	2.57

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)	314	79	92	85	1.04	1.77	3.71	0.93	1.09
-30	(-22)	442	111	129	102	1.20	2.50	4.38	1.10	1.28
-25	(-13)	626	158	183	122	1.39	3.56	5.11	1.29	1.50
-20	(- 4)	856	216	251	144	1.59	4.87	5.90	1.49	1.73
-15	(+ 5)	1122	283	329	166	1.80	6.40	6.71	1.69	1.97
-10	(+14)	1413	356	414	187	2.01	8.09	7.54	1.90	2.21

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]
-35	(-31)	240	61	70	80	0.99	1.36	3.02	0.76	0.88
-30	(-22)	382	96	112	100	1.17	2.16	3.81	0.96	1.12
-25	(-13)	568	143	167	123	1.39	3.23	4.59	1.16	1.34
-20	(- 4)	790	199	232	148	1.62	4.50	5.32	1.34	1.56
-15	(+ 5)	1037	261	304	174	1.87	5.92	5.99	1.51	1.75
-10	(+14)	1299	327	381	199	2.11	7.44	6.57	1.66	1.93

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]
-35	(-31)	457	115	134	102	1.04	2.58	4.47	1.13	1.31
-30	(-22)	603	152	177	121	1.24	3.42	5.04	1.27	1.48
-25	(-13)	812	205	238	142	1.47	4.61	5.74	1.45	1.68
-20	(- 4)	1081	272	317	165	1.70	6.15	6.54	1.65	1.92
-15	(+ 5)	1408	355	413	189	1.94	8.04	7.44	1.88	2.18
-10	(+14)	1791	451	525	213	2.18	10.26	8.43	2.12	2.47

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]
-35	(-31)	382	96	112	100	1.03	2.16	3.84	0.97	1.12
-30	(-22)	530	134	155	121	1.25	3.01	4.43	1.12	1.30
-25	(-13)	737	186	216	145	1.50	4.18	5.09	1.28	1.49
-20	(- 4)	999	252	293	172	1.77	5.69	5.79	1.46	1.70
-15	(+ 5)	1316	332	385	201	2.06	7.51	6.54	1.65	1.92
-10	(+14)	1683	424	493	230	2.37	9.64	7.31	1.84	2.14

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]
-35	(-31)	309	78	91	94	0.97	1.75	3.26	0.82	0.96
-30	(-22)	451	114	132	116	1.20	2.56	3.90	0.98	1.14
-25	(-13)	647	163	190	142	1.47	3.67	4.54	1.14	1.33
-20	(- 4)	895	225	262	173	1.78	5.09	5.18	1.30	1.52
-15	(+ 5)	1191	300	349	206	2.12	6.80	5.79	1.46	1.70
-10	(+14)	1535	387	450	242	2.49	8.79	6.37	1.61	1.87

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		