

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	490B814R7/7M4R7MB3/8M4R7MB3	
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)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[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	1.41	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	1.52	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	87	1.03	2.21	4.46	1.12	1.31
-30 (-22)	500	126	147	104	1.19	2.83	4.88	1.23	1.43
-25 (-13)	675	170	198	122	1.36	3.83	5.61	1.41	1.64
-20 (- 4)	907	229	266	138	1.52	5.16	6.57	1.66	1.93
-15 (+ 5)	1185	299	347	154	1.67	6.77	7.69	1.94	2.25
-10 (+14)	1498	378	439	168	1.82	8.59	8.90	2.24	2.61

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	82	1.00	1.77	3.84	0.97	1.13
-30 (-22)	442	111	129	101	1.17	2.50	4.41	1.11	1.29
-25 (-13)	626	158	183	121	1.36	3.56	5.15	1.30	1.51
-20 (- 4)	856	216	251	142	1.55	4.87	6.00	1.51	1.76
-15 (+ 5)	1122	283	329	162	1.75	6.40	6.89	1.74	2.02
-10 (+14)	1413	356	414	183	1.96	8.09	7.74	1.95	2.27

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)	240	61	70	78	0.96	1.36	3.11	0.78	0.91	
-30 (-22)	382	96	112	98	1.15	2.16	3.85	0.97	1.13	
-25 (-13)	568	143	167	121	1.36	3.23	4.65	1.17	1.36	
-20 (- 4)	790	199	232	145	1.60	4.50	5.43	1.37	1.59	
-15 (+ 5)	1037	261	304	171	1.85	5.92	6.13	1.54	1.80	
-10 (+14)	1299	327	381	197	2.11	7.44	6.66	1.68	1.95	

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)	456	115	134	99	1.02	2.58	4.55	1.15	1.33	
-30 (-22)	608	153	178	118	1.22	3.45	5.18	1.31	1.52	
-25 (-13)	817	206	239	140	1.44	4.64	5.89	1.48	1.73	
-20 (- 4)	1083	273	317	162	1.66	6.17	6.69	1.69	1.96	
-15 (+ 5)	1409	355	413	186	1.90	8.04	7.58	1.91	2.22	
-10 (+14)	1795	452	526	210	2.14	10.29	8.56	2.16	2.51	

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)	368	93	108	96	0.99	2.08	3.87	0.97	1.13	
-30 (-22)	527	133	154	117	1.22	2.98	4.51	1.14	1.32	
-25 (-13)	737	186	216	142	1.47	4.18	5.18	1.30	1.52	
-20 (- 4)	999	252	293	169	1.74	5.69	5.88	1.48	1.72	
-15 (+ 5)	1316	332	386	198	2.03	7.51	6.61	1.67	1.94	
-10 (+14)	1689	426	495	228	2.34	9.67	7.38	1.86	2.16	

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)	309	78	90	91	0.94	1.75	3.36	0.85	0.98	
-30 (-22)	457	115	134	113	1.17	2.59	4.02	1.01	1.18	
-25 (-13)	652	164	191	140	1.45	3.70	4.66	1.17	1.36	
-20 (- 4)	895	226	262	170	1.75	5.10	5.27	1.33	1.54	
-15 (+ 5)	1188	299	348	203	2.08	6.78	5.86	1.48	1.72	
-10 (+14)	1530	386	448	239	2.45	8.77	6.42	1.62	1.88	

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		