

COMPRESSOR DEFINITION

Designation	EG U80HLC
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513700004

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 / ISO7	
4 Weight (with oil charge)	11.12	[kg] (24.51 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]
698	176	205	124	1.37	3.97	5.63	1.42	1.65

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]
821	207	241	144	1.46	4.66	5.71	1.44	1.67

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	82	1.01	2.21	4.74	1.19	1.39
-30 (-22)	500	126	147	97	1.16	2.83	5.27	1.33	1.54
-25 (-13)	675	170	198	114	1.31	3.83	6.01	1.51	1.76
-20 (- 4)	907	229	266	131	1.46	5.16	6.91	1.74	2.02
-15 (+ 5)	1185	299	347	149	1.62	6.77	7.94	2.00	2.33
-10 (+14)	1498	378	439	165	1.78	8.59	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)	314	79	92	79	0.99	1.77	4.01	1.01	1.18
-30 (-22)	442	111	129	96	1.15	2.50	4.64	1.17	1.36
-25 (-13)	626	158	183	116	1.32	3.56	5.37	1.35	1.57
-20 (- 4)	856	216	251	138	1.51	4.87	6.16	1.55	1.80
-15 (+ 5)	1122	283	329	160	1.72	6.40	6.97	1.76	2.04
-10 (+14)	1413	356	414	182	1.93	8.09	7.75	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	72	0.93	1.36	3.38	0.85	0.99	
-30 (-22)	382	96	112	92	1.11	2.16	4.14	1.04	1.21	
-25 (-13)	568	143	167	115	1.32	3.23	4.90	1.23	1.43	
-20 (- 4)	790	199	232	141	1.54	4.50	5.60	1.41	1.64	
-15 (+ 5)	1037	261	304	168	1.79	5.92	6.22	1.57	1.82	
-10 (+14)	1299	327	381	195	2.06	7.44	6.71	1.69	1.96	

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)	428	108	126	92	0.96	2.42	4.64	1.17	1.36	
-30 (-22)	602	152	176	112	1.16	3.41	5.39	1.36	1.58	
-25 (-13)	819	206	240	133	1.37	4.65	6.17	1.55	1.81	
-20 (- 4)	1086	274	318	155	1.59	6.18	6.99	1.76	2.05	
-15 (+ 5)	1410	355	413	178	1.82	8.05	7.90	1.99	2.32	
-10 (+14)	1797	453	527	201	2.06	10.30	8.93	2.25	2.62	

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)	365	92	107	88	0.93	2.07	4.14	1.04	1.21	
-30 (-22)	531	134	155	109	1.14	3.01	4.86	1.23	1.43	
-25 (-13)	737	186	216	133	1.38	4.18	5.53	1.39	1.62	
-20 (- 4)	990	250	290	160	1.64	5.64	6.19	1.56	1.81	
-15 (+ 5)	1298	327	380	189	1.93	7.41	6.85	1.73	2.01	
-10 (+14)	1667	420	488	220	2.24	9.55	7.56	1.91	2.22	

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)	274	69	80	83	0.86	1.55	3.27	0.83	0.96	
-30 (-22)	430	108	126	105	1.09	2.44	4.08	1.03	1.20	
-25 (-13)	624	157	183	131	1.36	3.55	4.77	1.20	1.40	
-20 (- 4)	864	218	253	161	1.67	4.92	5.37	1.35	1.57	
-15 (+ 5)	1155	291	338	196	2.02	6.59	5.92	1.49	1.73	
-10 (+14)	1503	379	441	234	2.40	8.61	6.43	1.62	1.89	

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		
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		