

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	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	124	1.38	3.98	5.65	1.42	1.66	

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	144	1.47	4.66	5.68	1.43	1.66	

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	84	0.99	2.21	4.62	1.17	1.35
-30 (-22)	500	126	147	99	1.15	2.83	5.15	1.30	1.51
-25 (-13)	675	170	198	116	1.32	3.83	5.90	1.49	1.73
-20 (- 4)	907	229	266	133	1.48	5.16	6.82	1.72	2.00
-15 (+ 5)	1185	299	347	151	1.64	6.77	7.84	1.98	2.30
-10 (+14)	1498	378	439	168	1.81	8.59	8.93	2.25	2.62

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	0.98	1.77	3.99	1.00	1.17
-30 (-22)	442	111	129	97	1.17	2.50	4.62	1.16	1.35
-25 (-13)	626	158	183	117	1.36	3.56	5.36	1.35	1.57
-20 (- 4)	856	216	251	138	1.55	4.87	6.16	1.55	1.81
-15 (+ 5)	1122	283	329	160	1.76	6.40	6.97	1.76	2.04
-10 (+14)	1413	356	414	183	1.97	8.09	7.73	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	74	0.92	1.36	3.28	0.83	0.96	
-30 (-22)	382	96	112	93	1.13	2.16	4.05	1.02	1.19	
-25 (-13)	568	143	167	116	1.36	3.23	4.83	1.22	1.41	
-20 (- 4)	790	199	232	142	1.60	4.50	5.55	1.40	1.63	
-15 (+ 5)	1037	261	304	169	1.86	5.92	6.18	1.56	1.81	
-10 (+14)	1299	327	381	197	2.13	7.44	6.65	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)	432	109	127	97	0.97	2.44	4.43	1.12	1.30	
-30 (-22)	614	155	180	117	1.20	3.48	5.23	1.32	1.53	
-25 (-13)	823	207	241	138	1.42	4.67	5.98	1.51	1.75	
-20 (- 4)	1071	270	314	160	1.64	6.10	6.72	1.69	1.97	
-15 (+ 5)	1371	346	402	183	1.87	7.83	7.50	1.89	2.20	
-10 (+14)	1734	437	508	207	2.12	9.93	8.35	2.10	2.45	

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)	367	93	108	96	0.96	2.08	3.83	0.97	1.12	
-30 (-22)	541	136	159	117	1.20	3.07	4.60	1.16	1.35	
-25 (-13)	742	187	217	141	1.45	4.21	5.29	1.33	1.55	
-20 (- 4)	982	247	288	166	1.71	5.59	5.92	1.49	1.74	
-15 (+ 5)	1273	321	373	194	1.99	7.27	6.55	1.65	1.92	
-10 (+14)	1626	410	476	225	2.31	9.32	7.22	1.82	2.11	

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)	271	68	79	88	0.89	1.53	3.05	0.77	0.89	
-30 (-22)	436	110	128	112	1.15	2.47	3.86	0.97	1.13	
-25 (-13)	629	159	184	138	1.43	3.57	4.54	1.14	1.33	
-20 (- 4)	860	217	252	168	1.74	4.90	5.13	1.29	1.50	
-15 (+ 5)	1142	288	335	202	2.09	6.52	5.67	1.43	1.66	
-10 (+14)	1486	375	435	239	2.48	8.51	6.21	1.56	1.82	

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		