

### COMPRESSOR DEFINITION

Designation	EG U70HLC
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513700012

### 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 <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	6.36	[cm <sup>3</sup> ] (0.388 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.000	
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)	11.23	[kg] (24.76 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (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	490D314R7/7M4R7MD3/8EA14C3/8EA1B3/8EA21C3/8EA3B3/	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	20(180)	[µF(VAC minimum)]
5 Motor protection	4TM427NFBYY-53	
6 Start winding resistance	3.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	11.50/10.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.00/1.70	[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]
600	151	176	109	1.15	3.41	5.53	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]
700	176	205	125	1.29	3.98	5.60	1.41	1.64

### 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)	307	77	90	72	0.78	1.74	4.26	1.07	1.25
-30 (-22)	448	113	131	86	0.92	2.54	5.18	1.31	1.52
-25 (-13)	615	155	180	101	1.07	3.49	6.08	1.53	1.78
-20 (- 4)	814	205	239	116	1.22	4.63	7.00	1.77	2.05
-15 (+ 5)	1050	265	308	131	1.37	5.99	7.99	2.01	2.34
-10 (+14)	1327	334	389	146	1.52	7.60	9.08	2.29	2.66

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)	239	60	70	69	0.76	1.35	3.50	0.88	1.02
-30 (-22)	375	94	110	85	0.91	2.12	4.39	1.11	1.29
-25 (-13)	537	135	157	103	1.09	3.05	5.22	1.31	1.53
-20 (- 4)	732	184	214	122	1.27	4.16	6.01	1.51	1.76
-15 (+ 5)	963	243	282	141	1.47	5.50	6.81	1.72	1.99
-10 (+14)	1237	312	362	161	1.67	7.08	7.66	1.93	2.24

### 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)	170	43	50	63	0.70	0.96	2.69	0.68	0.79	
-30 (-22)	301	76	88	81	0.87	1.70	3.66	0.92	1.07	
-25 (-13)	459	116	134	102	1.07	2.60	4.50	1.13	1.32	
-20 (- 4)	649	164	190	124	1.29	3.69	5.26	1.33	1.54	
-15 (+ 5)	877	221	257	147	1.53	5.01	5.97	1.50	1.75	
-10 (+14)	1147	289	336	172	1.78	6.57	6.68	1.68	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)	366	92	107	83	0.87	2.07	4.40	1.11	1.29	
-30 (-22)	530	133	155	100	1.03	3.00	5.28	1.33	1.55	
-25 (-13)	722	182	212	119	1.20	4.10	6.09	1.54	1.79	
-20 (- 4)	954	240	280	138	1.40	5.43	6.90	1.74	2.02	
-15 (+ 5)	1238	312	363	159	1.61	7.07	7.76	1.96	2.27	
-10 (+14)	1585	399	464	180	1.82	9.08	8.75	2.21	2.57	

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)	286	72	84	81	0.84	1.62	3.55	0.89	1.04	
-30 (-22)	446	112	131	100	1.02	2.53	4.44	1.12	1.30	
-25 (-13)	628	158	184	122	1.23	3.56	5.20	1.31	1.52	
-20 (- 4)	844	213	247	144	1.46	4.80	5.88	1.48	1.72	
-15 (+ 5)	1105	279	324	169	1.72	6.31	6.55	1.65	1.92	
-10 (+14)	1424	359	417	195	1.98	8.16	7.28	1.84	2.13	

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)	185	47	54	72	0.77	1.05	2.55	0.64	0.75	
-30 (-22)	349	88	102	95	0.97	1.98	3.57	0.90	1.05	
-25 (-13)	529	133	155	120	1.22	3.01	4.38	1.10	1.28	
-20 (- 4)	738	186	216	147	1.49	4.20	5.05	1.27	1.48	
-15 (+ 5)	987	249	289	176	1.79	5.63	5.65	1.42	1.66	
-10 (+14)	1287	324	377	206	2.10	7.37	6.24	1.57	1.83	

### 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		