

COMPRESSOR DEFINITION

Designation	EG U100HLCW
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513700100

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 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/Fan	198 to 255 V	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	198 to 255 V	198 to 242 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	1/3	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	11.23	[kg] (24.76 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Combo	
2.1 Starting device	3ARR52T7H/3ARR56T7H	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	3ARR52/56T7H	
6 Start winding resistance	12.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.05	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	11.20/10.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.70/1.60	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]	
875	221	256	163	0.96	4.97	5.37	1.35	1.57	

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		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]	
875	221	256	163	0.96	4.97	5.37	1.35	1.57	

TEST CONDITIONS: @220V60Hz			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]	
1040	262	305	186	0.90	5.91	5.60	1.41	1.64	

TEST CONDITIONS: @220V60Hz			ASHRAELBP32 Fan		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]	
1040	262	305	186	0.90	5.91	5.60	1.41	1.64	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-35	(-31)	435	110	128	108	0.82	2.46	4.05	1.02	1.19
-30	(-22)	636	160	186	129	0.87	3.61	4.93	1.24	1.44
-25	(-13)	858	216	252	151	0.93	4.87	5.73	1.44	1.68
-20	(- 4)	1121	282	328	172	1.01	6.38	6.54	1.65	1.92
-15	(+ 5)	1442	363	423	194	1.09	8.23	7.43	1.87	2.18
-10	(+14)	1841	464	539	216	1.18	10.55	8.48	2.14	2.48

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	383	96	112	107	0.80	2.17	3.48	0.88	1.02	
-30 (-22)	578	146	169	132	0.87	3.28	4.32	1.09	1.27	
-25 (-13)	790	199	231	157	0.94	4.49	5.05	1.27	1.48	
-20 (- 4)	1036	261	304	182	1.03	5.90	5.74	1.45	1.68	
-15 (+ 5)	1337	337	392	207	1.13	7.63	6.46	1.63	1.89	
-10 (+14)	1709	431	501	234	1.24	9.79	7.31	1.84	2.14	

TEST CONDITIONS: @220V50Hz		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)	251	63	73	94	0.77	1.42	2.77	0.70	0.81	
-30 (-22)	463	117	136	124	0.85	2.62	3.67	0.93	1.08	
-25 (-13)	686	173	201	154	0.94	3.89	4.42	1.11	1.30	
-20 (- 4)	938	236	275	184	1.05	5.34	5.09	1.28	1.49	
-15 (+ 5)	1239	312	363	215	1.17	7.07	5.75	1.45	1.69	
-10 (+14)	1606	405	471	247	1.30	9.20	6.49	1.64	1.90	

TEST CONDITIONS: @220V60Hz		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)	486	123	142	115	0.61	2.75	4.22	1.06	1.24	
-30 (-22)	741	187	217	144	0.73	4.20	5.10	1.28	1.49	
-25 (-13)	1013	255	297	173	0.84	5.75	5.88	1.48	1.72	
-20 (- 4)	1328	335	389	202	0.97	7.56	6.65	1.68	1.95	
-15 (+ 5)	1710	431	501	230	1.10	9.76	7.47	1.88	2.19	
-10 (+14)	2182	550	639	259	1.23	12.50	8.42	2.12	2.47	

TEST CONDITIONS: @220V60Hz		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)	430	108	126	111	0.58	2.43	3.83	0.97	1.12	
-30 (-22)	670	169	196	141	0.71	3.80	4.62	1.16	1.35	
-25 (-13)	929	234	272	173	0.84	5.27	5.31	1.34	1.56	
-20 (- 4)	1231	310	361	206	0.99	7.01	5.96	1.50	1.75	
-15 (+ 5)	1601	404	469	240	1.15	9.14	6.66	1.68	1.95	
-10 (+14)	2064	520	605	276	1.32	11.83	7.46	1.88	2.19	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	384	97	112	100	0.55	2.17	3.90	0.98	1.14
-30	(-22)	596	150	175	131	0.67	3.38	4.52	1.14	1.32
-25	(-13)	829	209	243	166	0.82	4.71	5.01	1.26	1.47
-20	(- 4)	1107	279	324	204	0.99	6.30	5.45	1.37	1.60
-15	(+ 5)	1454	366	426	245	1.17	8.30	5.92	1.49	1.74
-10	(+14)	1895	478	555	290	1.37	10.86	6.49	1.64	1.90

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-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)	6.5 +0.09/-0.09	[mm]	(0.256" +0.004"/-0.004")
3.5 Connector sealing	Rubber Plugs		