

COMPRESSOR DEFINITION

Designation	EM 3Z60HLT
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301648

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	5.19	[cm ³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.6	[kg] (16.75 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14B3/8EA14C3/QPS2-A4R7MD3	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[μF(VAC minimum)]
5 Motor protection	4TM319NFBYY-53	
6 Start winding resistance	9.32	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.55	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]
648	163	190	110	0.97	3.68	5.92	1.49	1.73

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°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	73	0.65	2.08	5.13	1.29	1.50
-30	(-22)	547	138	160	84	0.76	3.10	6.42	1.62	1.88
-25	(-13)	696	175	204	94	0.85	3.95	7.31	1.84	2.14
-20	(- 4)	850	214	249	105	0.93	4.83	8.06	2.03	2.36
-15	(+ 5)	1043	263	306	117	1.02	5.95	8.93	2.25	2.62
-10	(+14)	1310	330	384	128	1.12	7.51	10.17	2.56	2.98
-5	(+23)	1687	425	494	141	1.24	9.70	12.02	3.03	3.52

TEST CONDITIONS: @115V60Hz		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)	353	89	103	73	0.66	2.00	4.71	1.19	1.38
-30	(-22)	519	131	152	86	0.79	2.95	5.85	1.47	1.71
-25	(-13)	656	165	192	100	0.90	3.72	6.56	1.65	1.92
-20	(- 4)	798	201	234	113	1.01	4.54	7.11	1.79	2.08
-15	(+ 5)	979	247	287	127	1.13	5.59	7.73	1.95	2.27
-10	(+14)	1236	311	362	141	1.25	7.08	8.69	2.19	2.55
-5	(+23)	1603	404	470	156	1.39	9.22	10.23	2.58	3.00

TEST CONDITIONS: @115V60Hz		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)	222	56	65	67	0.62	1.25	3.51	0.88	1.03
-30	(-22)	386	97	113	84	0.77	2.19	4.63	1.17	1.36
-25	(-13)	521	131	153	101	0.92	2.95	5.28	1.33	1.55
-20	(- 4)	661	167	194	118	1.06	3.76	5.74	1.45	1.68
-15	(+ 5)	842	212	247	136	1.20	4.81	6.24	1.57	1.83
-10	(+14)	1099	277	322	154	1.36	6.30	7.04	1.77	2.06
-5	(+23)	1466	369	430	172	1.53	8.43	8.39	2.12	2.46

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	179	45	52	57	0.52	1.01	2.96	0.74	0.87
-30	(-22)	352	89	103	78	0.72	2.00	4.17	1.05	1.22
-25	(-13)	496	125	145	100	0.90	2.81	4.89	1.23	1.43
-20	(- 4)	646	163	189	121	1.08	3.67	5.37	1.35	1.57
-15	(+ 5)	837	211	245	143	1.26	4.78	5.87	1.48	1.72
-10	(+14)	1104	278	324	165	1.45	6.33	6.63	1.67	1.94
-5	(+23)	1482	374	434	189	1.66	8.53	7.92	2.00	2.32

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	Yes		
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		