

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	TSD	
2.1 Starting device	TSD- 115V/TSD2-115V/TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[µF(VAC minimum)]
5 Motor protection	CP4TMC431K61	
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)	11.72	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.62	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.24	[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	108	0.97	3.68	6.01	1.51	1.76

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)	377	95	110	71	0.65	2.13	5.31	1.34	1.56
-30	(-22)	517	130	151	82	0.76	2.93	6.31	1.59	1.85
-25	(-13)	674	170	198	93	0.85	3.83	7.26	1.83	2.13
-20	(- 4)	858	216	251	104	0.93	4.88	8.24	2.08	2.42
-15	(+ 5)	1078	272	316	115	1.02	6.16	9.31	2.35	2.73
-10	(+14)	1344	339	394	127	1.12	7.70	10.54	2.66	3.09
-5	(+23)	1664	419	488	139	1.24	9.57	11.98	3.02	3.51

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)	331	83	97	71	0.66	1.87	4.65	1.17	1.36
-30	(-22)	475	120	139	85	0.79	2.69	5.62	1.42	1.65
-25	(-13)	633	159	185	98	0.90	3.59	6.49	1.64	1.90
-20	(- 4)	815	205	239	112	1.01	4.64	7.33	1.85	2.15
-15	(+ 5)	1030	260	302	125	1.13	5.88	8.20	2.07	2.40
-10	(+14)	1288	324	377	140	1.25	7.38	9.17	2.31	2.69
-5	(+23)	1597	403	468	155	1.39	9.19	10.29	2.59	3.02

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)	257	65	75	66	0.62	1.45	3.86	0.97	1.13
-30	(-22)	408	103	120	83	0.77	2.31	4.88	1.23	1.43
-25	(-13)	571	144	167	100	0.92	3.24	5.74	1.45	1.68
-20	(- 4)	755	190	221	117	1.06	4.30	6.51	1.64	1.91
-15	(+ 5)	969	244	284	134	1.20	5.53	7.25	1.83	2.13
-10	(+14)	1223	308	358	152	1.36	7.01	8.03	2.02	2.35
-5	(+23)	1526	385	447	171	1.53	8.78	8.91	2.25	2.61

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)	156	39	46	55	0.52	0.88	2.86	0.72	0.84
-30	(-22)	319	80	93	77	0.72	1.81	4.00	1.01	1.17
-25	(-13)	490	124	144	98	0.90	2.78	4.92	1.24	1.44
-20	(- 4)	680	171	199	120	1.08	3.87	5.69	1.43	1.67
-15	(+ 5)	897	226	263	141	1.26	5.12	6.38	1.61	1.87
-10	(+14)	1151	290	337	164	1.45	6.59	7.04	1.77	2.06
-5	(+23)	1451	366	425	187	1.66	8.35	7.75	1.95	2.27

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		