COMPRESSOR DEFINITION

Designation	**EM 3Z50HLT**
Nominal Voltage/Frequency	**115-127 V 60 Hz / 100 V 50 Hz**
Engineering Number	**513301703**

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 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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static/Fan	90 to 110 V	98 to 148 V
8.2 LBP (43ºC Ambient temperature)	Static/Fan	90 to 110 V	98 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak (gauge)	15.9	[kgf/cm²] (226 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	4.50	[cm³] (0.275 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.000	
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)	7.42	[kg] (16.36 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz / 100 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	15(180)/12(180)	[µF(VAC minimum)]
5 Motor protection	4TM302KFBYY-53	
6 Start winding resistance	7.19	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	6.58	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	11.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.12	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.22	[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]
562	142	165	93	0.82	3.19	6.04	1.52	1.77

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V60Hz **Static**

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)**	304	77	89	58	0.49	1.72	5.23	1.32	1.53
-30	**(-22)**	439	111	129	69	0.56	2.49	6.35	1.60	1.86
-25	**(-13)**	576	145	169	80	0.62	3.27	7.22	1.82	2.12
-20	**(- 4)**	730	184	214	91	0.69	4.15	8.03	2.02	2.35
-15	**(+ 5)**	914	230	268	102	0.76	5.22	8.92	2.25	2.61
-10	**(+14)**	1145	289	335	113	0.84	6.56	10.06	2.54	2.95

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V60Hz **Static**

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)**	275	69	81	62	0.49	1.56	4.46	1.12	1.31
-30	**(-22)**	414	104	121	74	0.58	2.34	5.58	1.41	1.64
-25	**(-13)**	550	139	161	86	0.67	3.12	6.41	1.62	1.88
-20	**(- 4)**	698	176	205	99	0.75	3.97	7.11	1.79	2.08
-15	**(+ 5)**	875	220	256	111	0.84	4.99	7.85	1.98	2.30
-10	**(+14)**	1094	276	320	124	0.94	6.27	8.78	2.21	2.57

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V60Hz **Static**

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)**	220	55	64	59	0.46	1.24	3.67	0.92	1.07
-30	**(-22)**	365	92	107	74	0.58	2.07	4.85	1.22	1.42
-25	**(-13)**	504	127	148	89	0.70	2.86	5.69	1.43	1.67
-20	**(- 4)**	652	164	191	104	0.80	3.71	6.35	1.60	1.86
-15	**(+ 5)**	824	208	241	119	0.91	4.70	6.98	1.76	2.04
-10	**(+14)**	1035	261	303	133	1.02	5.93	7.75	1.95	2.27

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**

@115V60Hz **Static**

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)**	138	35	40	52	0.41	0.78	2.70	0.68	0.79
-30	**(-22)**	293	74	86	70	0.56	1.66	4.01	1.01	1.18
-25	**(-13)**	439	111	129	88	0.70	2.49	4.92	1.24	1.44
-20	**(- 4)**	590	149	173	106	0.84	3.36	5.58	1.41	1.64
-15	**(+ 5)**	762	192	223	124	0.97	4.35	6.17	1.55	1.81
-10	**(+14)**	969	244	284	141	1.10	5.55	6.84	1.72	2.00

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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		