COMPRESSOR DEFINITION

Designation	**EM 2Y50HLT**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513301512**

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	-	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm²] (230 psig)	/ ºC - ºF
9.2 Peak (gauge)	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[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)	7.5	[kg] (16.53 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 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD- 115V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[µF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	6.50	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	8.28	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	7.75	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.10	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.43	[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]
517	130	151	92	0.80	2.94	5.64	1.42	1.65

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)**	300	76	88	61	0.53	1.70	4.94	1.24	1.45
-30	**(-22)**	406	102	119	70	0.61	2.30	5.86	1.48	1.72
-25	**(-13)**	533	134	156	79	0.69	3.03	6.77	1.71	1.98
-20	**(- 4)**	690	174	202	89	0.78	3.93	7.73	1.95	2.27
-15	**(+ 5)**	888	224	260	100	0.88	5.07	8.80	2.22	2.58
-10	**(+14)**	1136	286	333	112	0.98	6.51	10.04	2.53	2.94

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)**	261	66	76	62	0.55	1.47	4.25	1.07	1.24
-30	**(-22)**	377	95	110	73	0.64	2.14	5.18	1.31	1.52
-25	**(-13)**	509	128	149	84	0.74	2.89	6.06	1.53	1.78
-20	**(- 4)**	668	168	196	97	0.84	3.80	6.93	1.75	2.03
-15	**(+ 5)**	862	217	253	110	0.95	4.92	7.84	1.98	2.30
-10	**(+14)**	1103	278	323	124	1.07	6.32	8.87	2.24	2.60

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)**	204	51	60	57	0.52	1.15	3.55	0.89	1.04
-30	**(-22)**	327	82	96	72	0.64	1.86	4.52	1.14	1.32
-25	**(-13)**	462	116	135	86	0.76	2.62	5.36	1.35	1.57
-20	**(- 4)**	619	156	181	101	0.88	3.52	6.14	1.55	1.80
-15	**(+ 5)**	808	204	237	117	1.02	4.61	6.92	1.74	2.03
-10	**(+14)**	1039	262	304	134	1.17	5.95	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)**	131	33	38	48	0.43	0.74	2.77	0.70	0.81
-30	**(-22)**	258	65	76	66	0.58	1.46	3.77	0.95	1.11
-25	**(-13)**	393	99	115	84	0.74	2.23	4.60	1.16	1.35
-20	**(- 4)**	545	137	160	103	0.91	3.10	5.31	1.34	1.55
-15	**(+ 5)**	724	183	212	123	1.08	4.13	5.95	1.50	1.74
-10	**(+14)**	942	237	276	143	1.26	5.39	6.60	1.66	1.93

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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	Slanted 42º up + 45° to Back		
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	Slanted 30° up + 24° to Back		
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	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		