COMPRESSOR DEFINITION

Designation	**EM 3D50HLT**
Nominal Voltage/Frequency	**115-127 V 60 Hz / 100 V 50 Hz**
Engineering Number	**513301711**

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 temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak	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	12(200)	[µF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	6.17	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	5.61	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	8.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.34	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.83	[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]
546	138	160	88	0.77	3.10	6.23	1.57	1.83

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	54	0.54	1.70	5.55	1.40	1.63
-30	**(-22)**	428	108	125	65	0.60	2.43	6.58	1.66	1.93
-25	**(-13)**	570	144	167	75	0.67	3.24	7.64	1.93	2.24
-20	**(- 4)**	736	185	216	84	0.75	4.19	8.77	2.21	2.57
-15	**(+ 5)**	934	235	274	93	0.82	5.33	10.04	2.53	2.94
-10	**(+14)**	1174	296	344	102	0.90	6.73	11.48	2.89	3.36

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)**	253	64	74	54	0.55	1.43	4.72	1.19	1.38
-30	**(-22)**	386	97	113	67	0.62	2.19	5.74	1.45	1.68
-25	**(-13)**	532	134	156	79	0.71	3.02	6.71	1.69	1.97
-20	**(- 4)**	699	176	205	91	0.80	3.98	7.70	1.94	2.26
-15	**(+ 5)**	898	226	263	102	0.90	5.13	8.74	2.20	2.56
-10	**(+14)**	1137	286	333	114	1.01	6.51	9.90	2.49	2.90

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)**	196	49	57	51	0.54	1.11	3.88	0.98	1.14
-30	**(-22)**	332	84	97	66	0.62	1.88	4.95	1.25	1.45
-25	**(-13)**	479	121	140	81	0.72	2.72	5.91	1.49	1.73
-20	**(- 4)**	646	163	189	95	0.83	3.68	6.81	1.72	1.99
-15	**(+ 5)**	842	212	247	110	0.96	4.81	7.70	1.94	2.26
-10	**(+14)**	1076	271	315	124	1.09	6.17	8.63	2.17	2.53

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)**	129	33	38	45	0.51	0.73	2.90	0.73	0.85
-30	**(-22)**	265	67	78	63	0.60	1.51	4.08	1.03	1.20
-25	**(-13)**	411	104	120	80	0.71	2.33	5.08	1.28	1.49
-20	**(- 4)**	574	145	168	97	0.85	3.27	5.96	1.50	1.75
-15	**(+ 5)**	765	193	224	114	1.00	4.37	6.76	1.70	1.98
-10	**(+14)**	993	250	291	132	1.16	5.69	7.53	1.90	2.21

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	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		