COMPRESSOR DEFINITION

Designation	**EM T45HDR**
Nominal Voltage/Frequency	**220-240 V 50 Hz**
Engineering Number	**194LA42**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	High Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-15°C to 10°C	(5°F to 50°F)	
5 Motor type	CSIR		
6 Starting torque	HST - Hight starting torque		
7 Expantion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	-	-	-
8.2 LBP (43ºC Ambient temperature)	-	-	-
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		[hp]
2 Displacement	3.97	[cm³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.7	[kg] (16.98 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-0036	
3 Start capacitor	64-77(280)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0043/G6	
6 Start winding resistance	18.10	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	16.25	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	8.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.18	[A]
10 FLA - Full Load Amperage HBP (50 Hz)	1.37	[A]
11 Approval boards certification	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V50Hz**			**ASHRAEHBP46** **Static**		Evaporating temperature (Condensing temperature	**7.2°C (44.96°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]
1438	362	421	158	0.95	9.32	9.10	2.29	2.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz** — **ASHRAE46** **Static** — (Condensing temperature **35ºC (+95ºF))**

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]
-15	**(+ 5)**	734	185	215	98	0.82	3.96	7.49	1.89	2.20
-10	**(+14)**	926	233	271	106	0.84	5.03	8.73	2.20	2.56
-5	**(+23)**	1141	287	334	113	0.85	6.22	10.08	2.54	2.95
0	**(+32)**	1390	350	407	120	0.86	7.60	11.60	2.92	3.40
+5	**(+41)**	1686	425	494	126	0.87	9.27	13.36	3.37	3.91
+10	**(+50)**	2040	514	598	132	0.89	11.30	15.42	3.88	4.52

TEST CONDITIONS: **@220V50Hz** — **ASHRAE46** **Static** — (Condensing temperature **45ºC (+113ºF))**

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]
-15	**(+ 5)**	637	160	187	102	0.82	3.72	6.24	1.57	1.83
-10	**(+14)**	808	204	237	113	0.85	4.74	7.18	1.81	2.10
-5	**(+23)**	999	252	293	122	0.87	5.88	8.18	2.06	2.40
0	**(+32)**	1220	307	358	131	0.89	7.22	9.31	2.35	2.73
+5	**(+41)**	1485	374	435	139	0.91	8.84	10.63	2.68	3.12
+10	**(+50)**	1804	455	529	148	0.94	10.81	12.21	3.08	3.58

TEST CONDITIONS: **@220V50Hz** — **ASHRAE46** **Static** — (Condensing temperature **55ºC (+131ºF))**

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]
-15	**(+ 5)**	552	139	162	107	0.83	3.52	5.17	1.30	1.52
-10	**(+14)**	705	178	207	120	0.86	4.51	5.90	1.49	1.73
-5	**(+23)**	874	220	256	132	0.89	5.61	6.65	1.68	1.95
0	**(+32)**	1071	270	314	143	0.92	6.92	7.48	1.88	2.19
+5	**(+41)**	1307	329	383	154	0.95	8.50	8.46	2.13	2.48
+10	**(+50)**	1595	402	467	165	0.99	10.44	9.65	2.43	2.83

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
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	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		