

COMPRESSOR DEFINITION

Designation	EM T45HDR
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306045

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	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°F)	
5 Motor type	CSIR		
6 Starting torque	HST - Hight starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	-
8.3 HBP (32°C Ambient temperature)	Static	187 to 255 V	-
8.4 HBP (43°C Ambient temperature)	Static	187 to 255 V	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	3.97	[cm ³] (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 / ISO10	
4 Weight (with oil charge)	7.64	[kg] (16.84 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	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/G5	
6 Start winding resistance	18.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	16.25	[Ω at 25°C (77°F)] +/- 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] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.37	[A] - Measured according to UL 984
11 Approval boards certification	IMQ	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			CECOMAFLBP Static		Evaporating temperature (Condensing temperature		-25°C (-13°F) 55°C (131°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]
294	74	86	93	0.90	2.05	3.15	0.79	0.92

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	81	20	24		0.00	0.30	0.00	0.00	0.00
-30	(-22)	109	27	32		0.00	0.53	0.00	0.00	0.00
-25	(-13)	139	35	41		0.00	0.76	0.00	0.00	0.00
-20	(- 4)	174	44	51		0.00	0.99	0.00	0.00	0.00
-15	(+ 5)	214	54	63		0.00	1.25	0.00	0.00	0.00
-10	(+14)	262	66	77		0.00	1.54	0.00	0.00	0.00
-5	(+23)	320	81	94		0.00	1.89	0.00	0.00	0.00
0	(+32)	389	98	114		0.00	2.31	0.00	0.00	0.00
+5	(+41)	472	119	138		0.00	2.81	0.00	0.00	0.00
+10	(+50)	569	143	167		0.00	3.42	0.00	0.00	0.00
+15	(+59)	684	172	200		0.00	4.14	0.00	0.00	0.00

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	67	17	20		0.00	0.34	0.00	0.00	0.00
-30	(-22)	96	24	28		0.00	0.57	0.00	0.00	0.00
-25	(-13)	127	32	37		0.00	0.79	0.00	0.00	0.00
-20	(- 4)	161	41	47		0.00	1.02	0.00	0.00	0.00
-15	(+ 5)	202	51	59		0.00	1.29	0.00	0.00	0.00
-10	(+14)	250	63	73		0.00	1.60	0.00	0.00	0.00
-5	(+23)	307	77	90		0.00	1.97	0.00	0.00	0.00
0	(+32)	376	95	110		0.00	2.43	0.00	0.00	0.00
+5	(+41)	457	115	134		0.00	2.98	0.00	0.00	0.00
+10	(+50)	554	140	162		0.00	3.64	0.00	0.00	0.00
+15	(+59)	667	168	196		0.00	4.42	0.00	0.00	0.00

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	56	14	16		0.00	0.37	0.00	0.00	0.00
-30	(-22)	84	21	25		0.00	0.58	0.00	0.00	0.00
-25	(-13)	115	29	34		0.00	0.80	0.00	0.00	0.00
-20	(- 4)	149	37	44		0.00	1.05	0.00	0.00	0.00
-15	(+ 5)	188	47	55		0.00	1.33	0.00	0.00	0.00
-10	(+14)	235	59	69		0.00	1.66	0.00	0.00	0.00
-5	(+23)	291	73	85		0.00	2.07	0.00	0.00	0.00
0	(+32)	358	90	105		0.00	2.56	0.00	0.00	0.00
+5	(+41)	438	110	128		0.00	3.15	0.00	0.00	0.00
+10	(+50)	533	134	156		0.00	3.87	0.00	0.00	0.00
+15	(+59)	644	162	189		0.00	4.72	0.00	0.00	0.00

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	48	12	14		0.00	0.40	0.00	0.00	0.00
-30	(-22)	76	19	22		0.00	0.61	0.00	0.00	0.00
-25	(-13)	105	26	31		0.00	0.83	0.00	0.00	0.00
-20	(- 4)	137	35	40		0.00	1.08	0.00	0.00	0.00
-15	(+ 5)	175	44	51		0.00	1.38	0.00	0.00	0.00
-10	(+14)	220	55	64		0.00	1.74	0.00	0.00	0.00
-5	(+23)	274	69	80		0.00	2.18	0.00	0.00	0.00
0	(+32)	338	85	99		0.00	2.72	0.00	0.00	0.00
+5	(+41)	416	105	122		0.00	3.37	0.00	0.00	0.00
+10	(+50)	507	128	149		0.00	4.14	0.00	0.00	0.00
+15	(+59)	615	155	180		0.00	5.06	0.00	0.00	0.00

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
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° 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 parallel BP+24°to Back		
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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		