

### COMPRESSOR DEFINITION

Designation	EM T6170Z
Nominal Voltage/Frequency	100 V 50 Hz 60 Hz
Engineering Number	513300086

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	100 / 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	CSCR		
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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	7.96	[cm <sup>3</sup> ] (0.486 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	17.600	
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)	8.2	[kg] (18.08 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100 V 50/60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M4R7MB3/8EA14B11	
3 Start capacitor	88-108(165)	[µF(VAC minimum)]
4 Run capacitor	20(250)	[µF(VAC minimum)]
5 Motor protection	5TM444NFBYY-53	
6 Start winding resistance	6.42	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.18	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			ASHRAEHBP46 Fan		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]
2860	721	838	311	3.39	18.54	9.18	2.31	2.69

TEST CONDITIONS: @100V60Hz			ASHRAEHBP46 Fan		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]
3326	838	975	382	3.74	21.56	8.70	2.19	2.55

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			ASHRAE46 Fan		(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]
-15 (+ 5)	1207	304	354	188	2.47	0.00	6.41	1.61	1.88
-10 (+14)	1523	384	446	207	2.60	0.00	7.37	1.86	2.16
-5 (+23)	1881	474	551	225	2.75	0.00	8.37	2.11	2.45
0 (+32)	2300	580	674	244	2.90	0.00	9.42	2.37	2.76
+5 (+41)	2800	706	820	265	3.07	0.00	10.56	2.66	3.09
+10 (+50)	3399	856	996	288	3.27	0.00	11.81	2.98	3.46

TEST CONDITIONS: @100V50Hz			ASHRAE46 Fan		(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]
-15 (+ 5)	1036	261	304	197	2.53	0.00	5.26	1.32	1.54
-10 (+14)	1326	334	389	220	2.70	0.00	6.03	1.52	1.77
-5 (+23)	1650	416	483	242	2.88	0.00	6.82	1.72	2.00
0 (+32)	2026	511	594	265	3.07	0.00	7.65	1.93	2.24
+5 (+41)	2474	623	725	289	3.29	0.00	8.54	2.15	2.50
+10 (+50)	3012	759	882	316	3.53	0.00	9.52	2.40	2.79

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE46 Fan			(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]
-15 (+5)	853	215	250	201	2.55	0.00	4.27	1.07	1.25	
-10 (+14)	1117	282	327	228	2.76	0.00	4.89	1.23	1.43	
-5 (+23)	1406	354	412	256	2.99	0.00	5.50	1.39	1.61	
0 (+32)	1739	438	509	284	3.23	0.00	6.13	1.54	1.80	
+5 (+41)	2134	538	625	314	3.50	0.00	6.80	1.71	1.99	
+10 (+50)	2611	658	765	346	3.79	0.00	7.54	1.90	2.21	

TEST CONDITIONS: @100V60Hz		ASHRAE46 Fan			(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]
-15 (+5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	
-5 (+23)					0.00	0.00	0.00	0.00	0.00	
0 (+32)					0.00	0.00	0.00	0.00	0.00	
+5 (+41)					0.00	0.00	0.00	0.00	0.00	
+10 (+50)					0.00	0.00	0.00	0.00	0.00	

TEST CONDITIONS: @100V60Hz		ASHRAE46 Fan			(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]
-15 (+5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	
-5 (+23)					0.00	0.00	0.00	0.00	0.00	
0 (+32)					0.00	0.00	0.00	0.00	0.00	
+5 (+41)					0.00	0.00	0.00	0.00	0.00	
+10 (+50)					0.00	0.00	0.00	0.00	0.00	

TEST CONDITIONS: @100V60Hz		ASHRAE46 Fan			(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]
-15 (+5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	
-5 (+23)					0.00	0.00	0.00	0.00	0.00	
0 (+32)					0.00	0.00	0.00	0.00	0.00	
+5 (+41)					0.00	0.00	0.00	0.00	0.00	
+10 (+50)					0.00	0.00	0.00	0.00	0.00	

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		