

### COMPRESSOR DEFINITION

Designation	EM T30CDP
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513306048

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	100 / 50-60	[ 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	RSIR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	Static	85 to 110 V	85 to 110 V
8.3 HBP (32°C Ambient temperature)	Static	85 to 110 V	85 to 110 V
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/8	[hp]
2 Displacement	4.50	[cm <sup>3</sup> ] (0.275 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO22	
4 Weight (with oil charge)	7.2	[kg] (15.87 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELECTRICAL 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	8EA14C1/8EA14E62/8EA14E63/8EA14E64	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	5TM319LFBYY-73	
6 Start winding resistance	6.35	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.46	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	9.00/8.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.72/1.54	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.98/1.84	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
253	64	74	59	1.27	0.79	4.27	1.08	1.25	

TEST CONDITIONS: @100V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
320	81	94	66	1.11	1.00	4.86	1.22	1.42	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	115	29	34	48	1.24	0.36	2.43	0.61	0.71
-30	(-22)	156	39	46	51	1.24	0.49	3.10	0.78	0.91
-25	(-13)	206	52	60	55	1.25	0.65	3.78	0.95	1.11
-20	(- 4)	268	67	78	60	1.28	0.84	4.47	1.13	1.31
-15	(+ 5)	341	86	100	65	1.30	1.07	5.20	1.31	1.52
-10	(+14)	427	108	125	71	1.33	1.35	5.99	1.51	1.75
-5	(+23)	527	133	154	77	1.36	1.67	6.84	1.72	2.00
0	(+32)	642	162	188	83	1.39	2.03	7.77	1.96	2.28
+5	(+41)	772	195	226	88	1.42	2.46	8.81	2.22	2.58
+10	(+50)	920	232	269	93	1.43	2.94	9.96	2.51	2.92
+15	(+59)	1084	273	318	96	1.44	3.48	11.24	2.83	3.29

TEST CONDITIONS: @100V50Hz		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	117	29	34	47	1.24	0.37	2.47	0.62	0.72
-30	(-22)	157	40	46	51	1.24	0.49	3.10	0.78	0.91
-25	(-13)	209	53	61	56	1.26	0.66	3.74	0.94	1.10
-20	(- 4)	272	69	80	62	1.28	0.86	4.41	1.11	1.29
-15	(+ 5)	349	88	102	68	1.31	1.10	5.11	1.29	1.50
-10	(+14)	439	111	129	75	1.35	1.38	5.87	1.48	1.72
-5	(+23)	545	137	160	81	1.38	1.72	6.71	1.69	1.97
0	(+32)	666	168	195	88	1.42	2.11	7.63	1.92	2.24
+5	(+41)	804	203	236	93	1.45	2.56	8.65	2.18	2.54
+10	(+50)	960	242	281	98	1.47	3.07	9.80	2.47	2.87
+15	(+59)	1135	286	332	102	1.49	3.64	11.08	2.79	3.25

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	116	29	34	47	1.23	0.36	2.43	0.61	0.71
-30	(-22)	159	40	47	52	1.24	0.50	3.04	0.77	0.89
-25	(-13)	214	54	63	58	1.26	0.67	3.67	0.93	1.08
-20	(- 4)	282	71	83	65	1.30	0.88	4.33	1.09	1.27
-15	(+ 5)	364	92	107	72	1.33	1.14	5.03	1.27	1.47
-10	(+14)	461	116	135	79	1.38	1.45	5.79	1.46	1.70
-5	(+23)	574	145	168	86	1.42	1.81	6.63	1.67	1.94
0	(+32)	704	177	206	93	1.47	2.23	7.56	1.91	2.22
+5	(+41)	852	215	250	99	1.51	2.71	8.60	2.17	2.52
+10	(+50)	1019	257	299	105	1.54	3.26	9.77	2.46	2.86
+15	(+59)	1206	304	353	109	1.57	3.87	11.07	2.79	3.24

TEST CONDITIONS: @100V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	110	28	32	46	1.21	0.34	2.42	0.61	0.71
-30	(-22)	157	39	46	52	1.23	0.49	3.04	0.77	0.89
-25	(-13)	217	55	64	59	1.26	0.68	3.68	0.93	1.08
-20	(- 4)	292	74	85	67	1.30	0.92	4.35	1.10	1.28
-15	(+ 5)	382	96	112	75	1.35	1.20	5.07	1.28	1.49
-10	(+14)	488	123	143	83	1.40	1.54	5.86	1.48	1.72
-5	(+23)	611	154	179	91	1.46	1.93	6.73	1.70	1.97
0	(+32)	752	190	220	98	1.51	2.39	7.69	1.94	2.25
+5	(+41)	912	230	267	104	1.57	2.91	8.77	2.21	2.57
+10	(+50)	1093	275	320	110	1.62	3.49	9.98	2.51	2.92
+15	(+59)	1294	326	379	114	1.66	4.15	11.33	2.85	3.32

### 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 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		