

### COMPRESSOR DEFINITION

Designation	EM T30CDP
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513306207

### 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)	-	-	-
8.4 HBP (43°C Ambient temperature)	Static	85 to 110 V	85 to 110 V
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	4TM319LFBYY-53	
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			CECOMAFHBP Static		Evaporating temperature (Condensing temperature		5°C (41°F) 55°C (131°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]
930	234	273	103	1.52	3.61	9.06	2.28	2.65

TEST CONDITIONS: @100V60Hz			CECOMAFHBP Static		Evaporating temperature (Condensing temperature		5°C (41°F) 55°C (131°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]
1134	286	332	117	1.49	4.40	9.67	2.44	2.83

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		CECOMAF 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)	114	29	34	49	1.23	0.36	2.36	0.59	0.69
-30	(-22)	152	38	45	52	1.23	0.49	2.97	0.75	0.87
-25	(-13)	201	51	59	56	1.24	0.65	3.60	0.91	1.05
-20	(- 4)	260	66	76	61	1.27	0.84	4.26	1.07	1.25
-15	(+ 5)	332	84	97	67	1.30	1.07	4.96	1.25	1.45
-10	(+14)	417	105	122	72	1.33	1.35	5.72	1.44	1.68
-5	(+23)	515	130	151	79	1.36	1.67	6.55	1.65	1.92
0	(+32)	627	158	184	84	1.39	2.03	7.46	1.88	2.18
+5	(+41)	755	190	221	90	1.42	2.46	8.45	2.13	2.48
+10	(+50)	899	227	263	95	1.44	2.94	9.55	2.41	2.80
+15	(+59)	1060	267	311	98	1.44	3.48	10.76	2.71	3.15

TEST CONDITIONS: @100V50Hz		CECOMAF 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)	104	26	31	48	1.23	0.37	2.19	0.55	0.64
-30	(-22)	141	36	41	52	1.23	0.49	2.73	0.69	0.80
-25	(-13)	188	47	55	57	1.25	0.66	3.29	0.83	0.96
-20	(- 4)	245	62	72	63	1.27	0.86	3.88	0.98	1.14
-15	(+ 5)	314	79	92	70	1.31	1.10	4.51	1.14	1.32
-10	(+14)	396	100	116	76	1.34	1.38	5.19	1.31	1.52
-5	(+23)	491	124	144	83	1.38	1.72	5.93	1.49	1.74
0	(+32)	600	151	176	89	1.42	2.11	6.75	1.70	1.98
+5	(+41)	724	183	212	95	1.45	2.56	7.65	1.93	2.24
+10	(+50)	864	218	253	100	1.48	3.07	8.65	2.18	2.53
+15	(+59)	1020	257	299	104	1.49	3.64	9.76	2.46	2.86

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		CECOMAF 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]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	95	24	28	48	1.22	0.36	1.96	0.49	0.57
-30	(-22)	131	33	38	53	1.23	0.50	2.45	0.62	0.72
-25	(-13)	176	44	52	59	1.25	0.67	2.96	0.75	0.87
-20	(- 4)	233	59	68	66	1.29	0.88	3.49	0.88	1.02
-15	(+ 5)	300	76	88	74	1.33	1.14	4.06	1.02	1.19
-10	(+14)	380	96	111	81	1.37	1.45	4.67	1.18	1.37
-5	(+23)	472	119	138	88	1.42	1.81	5.35	1.35	1.57
0	(+32)	578	146	169	95	1.47	2.23	6.09	1.54	1.79
+5	(+41)	699	176	205	101	1.51	2.71	6.92	1.74	2.03
+10	(+50)	835	210	245	107	1.54	3.26	7.84	1.98	2.30
+15	(+59)	987	249	289	111	1.57	3.87	8.87	2.24	2.60

TEST CONDITIONS: @100V50Hz		CECOMAF 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]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	81	20	24	47	1.20	0.34	1.75	0.44	0.51
-30	(-22)	117	29	34	53	1.22	0.49	2.21	0.56	0.65
-25	(-13)	162	41	47	61	1.25	0.68	2.68	0.67	0.78
-20	(- 4)	217	55	64	68	1.29	0.92	3.17	0.80	0.93
-15	(+ 5)	283	71	83	76	1.34	1.20	3.69	0.93	1.08
-10	(+14)	361	91	106	84	1.40	1.54	4.26	1.07	1.25
-5	(+23)	451	114	132	92	1.45	1.93	4.88	1.23	1.43
0	(+32)	555	140	163	100	1.51	2.39	5.57	1.40	1.63
+5	(+41)	673	170	197	107	1.57	2.91	6.34	1.60	1.86
+10	(+50)	806	203	236	112	1.62	3.49	7.21	1.82	2.11
+15	(+59)	954	240	280	117	1.66	4.15	8.17	2.06	2.39

TEST CONDITIONS: @100V60Hz		CECOMAF 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]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	140	35	41	51	1.04	0.44	2.77	0.70	0.81
-30	(-22)	185	47	54	56	1.05	0.60	3.33	0.84	0.98
-25	(-13)	240	61	70	61	1.08	0.78	3.94	0.99	1.15
-20	(- 4)	307	77	90	67	1.11	1.00	4.61	1.16	1.35
-15	(+ 5)	387	98	113	73	1.15	1.25	5.37	1.35	1.57
-10	(+14)	484	122	142	78	1.19	1.57	6.21	1.57	1.82
-5	(+23)	600	151	176	84	1.24	1.94	7.16	1.81	2.10
0	(+32)	737	186	216	89	1.30	2.39	8.24	2.08	2.41
+5	(+41)	898	226	263	95	1.35	2.92	9.44	2.38	2.77
+10	(+50)	1085	273	318	100	1.40	3.54	10.80	2.72	3.16
+15	(+59)	1300	328	381	105	1.45	4.27	12.32	3.10	3.61

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		CECOMAF 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)	127	32	37	50	1.02	0.44	2.53	0.64	0.74
-30	(-22)	175	44	51	56	1.05	0.61	3.08	0.78	0.90
-25	(-13)	231	58	68	63	1.08	0.81	3.65	0.92	1.07
-20	(- 4)	297	75	87	70	1.12	1.04	4.25	1.07	1.25
-15	(+ 5)	376	95	110	77	1.17	1.31	4.90	1.24	1.44
-10	(+14)	470	118	138	84	1.23	1.64	5.62	1.42	1.65
-5	(+23)	581	147	170	91	1.29	2.04	6.41	1.62	1.88
0	(+32)	713	180	209	98	1.35	2.51	7.30	1.84	2.14
+5	(+41)	866	218	254	105	1.42	3.06	8.28	2.09	2.43
+10	(+50)	1045	263	306	112	1.49	3.71	9.39	2.37	2.75
+15	(+59)	1250	315	366	119	1.55	4.46	10.63	2.68	3.11

TEST CONDITIONS: @100V60Hz		CECOMAF 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)	107	27	31	50	1.01	0.41	2.14	0.54	0.63
-30	(-22)	158	40	46	57	1.04	0.60	2.70	0.68	0.79
-25	(-13)	216	54	63	65	1.08	0.82	3.25	0.82	0.95
-20	(- 4)	282	71	83	73	1.14	1.07	3.81	0.96	1.12
-15	(+ 5)	360	91	105	82	1.20	1.37	4.38	1.10	1.28
-10	(+14)	451	114	132	90	1.26	1.73	4.99	1.26	1.46
-5	(+23)	559	141	164	99	1.34	2.15	5.65	1.42	1.65
0	(+32)	685	173	201	107	1.42	2.65	6.36	1.60	1.86
+5	(+41)	832	210	244	116	1.50	3.23	7.15	1.80	2.10
+10	(+50)	1002	253	294	125	1.58	3.91	8.03	2.02	2.35
+15	(+59)	1198	302	351	134	1.66	4.70	9.01	2.27	2.64

TEST CONDITIONS: @100V60Hz		CECOMAF 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)	83	21	24	48	1.00	0.36	1.79	0.45	0.52
-30	(-22)	138	35	40	57	1.04	0.58	2.38	0.60	0.70
-25	(-13)	197	50	58	67	1.10	0.83	2.94	0.74	0.86
-20	(- 4)	264	67	77	76	1.16	1.11	3.47	0.88	1.02
-15	(+ 5)	341	86	100	86	1.23	1.44	3.99	1.01	1.17
-10	(+14)	431	109	126	96	1.31	1.83	4.52	1.14	1.32
-5	(+23)	535	135	157	107	1.40	2.29	5.05	1.27	1.48
0	(+32)	656	165	192	117	1.49	2.82	5.62	1.42	1.65
+5	(+41)	797	201	234	128	1.59	3.45	6.23	1.57	1.83
+10	(+50)	960	242	281	138	1.69	4.17	6.90	1.74	2.02
+15	(+59)	1147	289	336	149	1.79	4.99	7.65	1.93	2.24

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
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 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	6.5 +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		