

COMPRESSOR DEFINITION

Designation	EM T45CLP
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513300142

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 Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°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)	Static	85 to 110 V	90 to 110 V
8.2 LBP (43°C Ambient temperature)	Static	85 to 110 V	90 to 110 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	5.96	[cm ³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.8	[kg] (17.20 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	7M4R7MC1/8EA14B1	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM276RFBYY-53	
6 Start winding resistance	8.25	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	8.30/7.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.69/1.93	[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			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°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]
348	88	102	74	1.24	1.09	4.70	1.18	1.38

TEST CONDITIONS: @100V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°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]
413	104	121	80	1.12	1.30	5.16	1.30	1.51

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			ASHRAE32 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)	184	46	54	51	1.19	0.58	3.61	0.91	1.06
-30	(-22)	245	62	72	56	1.21	0.77	4.37	1.10	1.28
-25	(-13)	329	83	96	64	1.24	1.03	5.16	1.30	1.51
-20	(- 4)	434	109	127	72	1.28	1.36	6.01	1.51	1.76
-15	(+ 5)	560	141	164	81	1.33	1.76	6.93	1.75	2.03
-10	(+14)	705	178	207	89	1.37	2.22	7.94	2.00	2.33

TEST CONDITIONS: @100V50Hz			ASHRAE32 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)	152	38	45	50	1.19	0.48	3.04	0.77	0.89
-30	(-22)	215	54	63	56	1.21	0.68	3.86	0.97	1.13
-25	(-13)	300	76	88	65	1.25	0.94	4.64	1.17	1.36
-20	(- 4)	405	102	119	75	1.29	1.27	5.41	1.36	1.59
-15	(+ 5)	528	133	155	85	1.35	1.66	6.18	1.56	1.81
-10	(+14)	669	169	196	96	1.41	2.11	6.98	1.76	2.05

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 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)	124	31	36	50	1.19	0.39	2.45	0.62	0.72	
-30 (-22)	190	48	56	56	1.21	0.60	3.40	0.86	1.00	
-25 (-13)	276	70	81	65	1.25	0.87	4.24	1.07	1.24	
-20 (- 4)	380	96	111	76	1.30	1.20	4.99	1.26	1.46	
-15 (+ 5)	502	126	147	89	1.37	1.58	5.67	1.43	1.66	
-10 (+14)	638	161	187	101	1.46	2.01	6.31	1.59	1.85	

TEST CONDITIONS: @100V60Hz		ASHRAE32 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)	229	58	67	57	1.02	0.72	3.97	1.00	1.16	
-30 (-22)	316	80	93	67	1.07	0.99	4.70	1.18	1.38	
-25 (-13)	407	102	119	76	1.12	1.28	5.41	1.36	1.59	
-20 (- 4)	511	129	150	84	1.17	1.61	6.15	1.55	1.80	
-15 (+ 5)	640	161	188	92	1.24	2.01	6.97	1.76	2.04	
-10 (+14)	805	203	236	101	1.32	2.54	7.91	1.99	2.32	

TEST CONDITIONS: @100V60Hz		ASHRAE32 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)	186	47	54	53	1.01	0.58	3.51	0.88	1.03	
-30 (-22)	281	71	82	65	1.08	0.88	4.27	1.08	1.25	
-25 (-13)	374	94	110	75	1.14	1.17	4.96	1.25	1.45	
-20 (- 4)	476	120	139	85	1.20	1.50	5.62	1.42	1.65	
-15 (+ 5)	597	151	175	95	1.28	1.88	6.29	1.59	1.84	
-10 (+14)	750	189	220	106	1.38	2.37	7.02	1.77	2.06	

TEST CONDITIONS: @100V60Hz		ASHRAE32 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)	164	41	48	50	0.99	0.51	3.30	0.83	0.97	
-30 (-22)	266	67	78	63	1.07	0.83	4.11	1.03	1.20	
-25 (-13)	361	91	106	75	1.15	1.13	4.77	1.20	1.40	
-20 (- 4)	460	116	135	86	1.23	1.45	5.34	1.35	1.57	
-15 (+ 5)	574	145	168	98	1.32	1.81	5.87	1.48	1.72	
-10 (+14)	713	180	209	111	1.43	2.25	6.40	1.61	1.87	

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
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 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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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		