

### COMPRESSOR DEFINITION

Designation	EM B55CLC
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513304520

### 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	RSCR		
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	85 to 110 V
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)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	7.7	[kgf/cm <sup>2</sup> ] (109 psig)	/ °C - °F
9.2 Peak (gauge)	9.8	[kgf/cm <sup>2</sup> ] (139 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	9.04	[cm <sup>3</sup> ] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
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)	8.15	[kg] (17.97 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	8M4R7MD2/8M4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	20(180)	[µF(VAC minimum)]
5 Motor protection	4TM427KFBYY-53	
6 Start winding resistance	3.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.75	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	16.00/14.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.20	[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		

### 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]	
542	137	159	95	1.24	1.70	5.68	1.43	1.66	

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]	
616	155	181	105	1.11	1.93	5.86	1.48	1.72	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 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)	316	80	93	68	1.07	0.99	4.67	1.18	1.37
-30	(-22)	415	105	122	76	1.13	1.30	5.44	1.37	1.60
-25	(-13)	544	137	159	86	1.19	1.71	6.37	1.60	1.87
-20	(- 4)	705	178	207	95	1.26	2.22	7.44	1.87	2.18
-15	(+ 5)	902	227	264	104	1.34	2.84	8.67	2.18	2.54
-10	(+14)	1137	286	333	113	1.42	3.59	10.06	2.54	2.95

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)	294	74	86	68	1.07	0.92	4.30	1.08	1.26
-30	(-22)	395	99	116	79	1.14	1.24	5.03	1.27	1.48
-25	(-13)	523	132	153	89	1.22	1.64	5.86	1.48	1.72
-20	(- 4)	682	172	200	100	1.31	2.14	6.79	1.71	1.99
-15	(+ 5)	873	220	256	111	1.40	2.75	7.82	1.97	2.29
-10	(+14)	1100	277	322	123	1.49	3.47	8.97	2.26	2.63

### E - PERFORMANCE - CURVES

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)	260	65	76	68	1.07	0.81	3.82	0.96	1.12	
-30 (-22)	363	91	106	80	1.15	1.14	4.56	1.15	1.34	
-25 (-13)	491	124	144	92	1.24	1.54	5.35	1.35	1.57	
-20 (- 4)	647	163	190	105	1.34	2.03	6.19	1.56	1.81	
-15 (+ 5)	834	210	244	118	1.45	2.62	7.08	1.78	2.07	
-10 (+14)	1054	265	309	131	1.57	3.32	8.04	2.02	2.35	

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)	213	54	62	67	1.06	0.67	3.17	0.80	0.93	
-30 (-22)	319	80	93	80	1.15	1.00	3.98	1.00	1.17	
-25 (-13)	447	113	131	93	1.25	1.40	4.78	1.21	1.40	
-20 (- 4)	601	151	176	108	1.37	1.89	5.58	1.41	1.64	
-15 (+ 5)	783	197	229	123	1.50	2.47	6.39	1.61	1.87	
-10 (+14)	996	251	292	138	1.64	3.14	7.21	1.82	2.11	

TEST CONDITIONS: @100V60Hz		ASHRAE32 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)	348	88	102	73	0.82	1.09	4.74	1.19	1.39	
-30 (-22)	463	117	136	82	0.90	1.45	5.63	1.42	1.65	
-25 (-13)	608	153	178	93	1.00	1.91	6.58	1.66	1.93	
-20 (- 4)	788	199	231	104	1.10	2.48	7.62	1.92	2.23	
-15 (+ 5)	1010	255	296	115	1.21	3.18	8.77	2.21	2.57	
-10 (+14)	1278	322	374	127	1.33	4.03	10.05	2.53	2.95	

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)	334	84	98	75	0.83	1.05	4.48	1.13	1.31	
-30 (-22)	448	113	131	85	0.93	1.40	5.27	1.33	1.54	
-25 (-13)	589	148	173	97	1.04	1.85	6.09	1.53	1.78	
-20 (- 4)	763	192	224	109	1.16	2.40	6.98	1.76	2.05	
-15 (+ 5)	976	246	286	123	1.29	3.07	7.95	2.00	2.33	
-10 (+14)	1233	311	361	137	1.43	3.89	9.03	2.27	2.65	

### E - PERFORMANCE - CURVES

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)	310	78	91	75	0.84	0.97	4.13	1.04	1.21
-30	(-22)	421	106	123	87	0.95	1.32	4.85	1.22	1.42
-25	(-13)	558	141	163	100	1.07	1.75	5.58	1.41	1.64
-20	(- 4)	725	183	212	114	1.20	2.28	6.36	1.60	1.86
-15	(+ 5)	928	234	272	129	1.35	2.92	7.19	1.81	2.11
-10	(+14)	1172	295	344	145	1.51	3.70	8.10	2.04	2.37

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)	276	70	81	75	0.84	0.86	3.66	0.92	1.07
-30	(-22)	384	97	112	88	0.96	1.20	4.35	1.10	1.27
-25	(-13)	514	130	151	102	1.09	1.61	5.03	1.27	1.47
-20	(- 4)	673	170	197	118	1.24	2.12	5.73	1.44	1.68
-15	(+ 5)	865	218	253	134	1.40	2.72	6.46	1.63	1.89
-10	(+14)	1095	276	321	151	1.57	3.46	7.25	1.83	2.12

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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 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 parallel BP+45°to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		