

COMPRESSOR DEFINITION

Designation	EM B55CLC
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513300290

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 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	1/5	[hp]
2 Displacement	9.04	[cm ³] (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)	8.35	[kg] (18.41 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	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	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]
542	137	159	96	1.27	1.70	5.65	1.42	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]
614	155	180	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)	336	85	98	67	1.05	1.05	4.99	1.26	1.46
-30 (-22)	439	111	129	75	1.10	1.38	5.84	1.47	1.71
-25 (-13)	571	144	167	84	1.16	1.79	6.80	1.71	1.99
-20 (- 4)	731	184	214	93	1.23	2.29	7.86	1.98	2.30
-15 (+ 5)	920	232	270	102	1.30	2.90	9.02	2.27	2.64
-10 (+14)	1141	288	334	111	1.37	3.60	10.28	2.59	3.01

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)	299	75	88	69	1.06	0.93	4.38	1.10	1.28
-30 (-22)	406	102	119	78	1.12	1.27	5.19	1.31	1.52
-25 (-13)	540	136	158	89	1.20	1.69	6.08	1.53	1.78
-20 (- 4)	703	177	206	100	1.28	2.21	7.04	1.77	2.06
-15 (+ 5)	895	226	262	111	1.37	2.82	8.08	2.04	2.37
-10 (+14)	1118	282	328	122	1.47	3.53	9.19	2.32	2.69

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)	262	66	77	68	1.05	0.82	3.86	0.97	1.13	
-30 (-22)	368	93	108	80	1.13	1.15	4.62	1.16	1.35	
-25 (-13)	501	126	147	92	1.22	1.57	5.43	1.37	1.59	
-20 (- 4)	662	167	194	105	1.32	2.08	6.30	1.59	1.84	
-15 (+ 5)	852	215	250	118	1.43	2.68	7.20	1.82	2.11	
-10 (+14)	1072	270	314	131	1.55	3.38	8.16	2.06	2.39	

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)	224	56	65	65	1.02	0.70	3.43	0.86	1.00	
-30 (-22)	324	82	95	78	1.11	1.02	4.14	1.04	1.21	
-25 (-13)	451	114	132	93	1.22	1.42	4.87	1.23	1.43	
-20 (- 4)	606	153	177	108	1.34	1.90	5.63	1.42	1.65	
-15 (+ 5)	788	199	231	123	1.48	2.48	6.40	1.61	1.88	
-10 (+14)	1000	252	293	139	1.62	3.16	7.19	1.81	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)	345	87	101	73	0.82	1.08	4.72	1.19	1.38	
-30 (-22)	468	118	137	83	0.91	1.47	5.64	1.42	1.65	
-25 (-13)	619	156	181	93	1.01	1.94	6.63	1.67	1.94	
-20 (- 4)	803	202	235	104	1.12	2.52	7.73	1.95	2.26	
-15 (+ 5)	1027	259	301	115	1.23	3.23	8.92	2.25	2.61	
-10 (+14)	1296	327	380	127	1.34	4.09	10.22	2.58	2.99	

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)	332	84	97	74	0.83	1.04	4.47	1.13	1.31	
-30 (-22)	447	113	131	85	0.93	1.40	5.24	1.32	1.54	
-25 (-13)	589	148	173	97	1.04	1.85	6.07	1.53	1.78	
-20 (- 4)	763	192	223	109	1.17	2.40	6.97	1.76	2.04	
-15 (+ 5)	974	246	285	123	1.31	3.07	7.94	2.00	2.33	
-10 (+14)	1229	310	360	137	1.45	3.88	8.99	2.27	2.64	

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)	314	79	92	75	0.84	0.98	4.15	1.05	1.22
-30	(-22)	422	106	124	87	0.94	1.32	4.84	1.22	1.42
-25	(-13)	555	140	163	100	1.07	1.74	5.56	1.40	1.63
-20	(- 4)	719	181	211	114	1.21	2.26	6.33	1.59	1.85
-15	(+ 5)	920	232	270	129	1.37	2.90	7.14	1.80	2.09
-10	(+14)	1162	293	341	145	1.53	3.67	8.01	2.02	2.35

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)	277	70	81	76	0.84	0.87	3.66	0.92	1.07
-30	(-22)	380	96	111	88	0.95	1.19	4.33	1.09	1.27
-25	(-13)	506	128	148	101	1.08	1.59	5.01	1.26	1.47
-20	(- 4)	662	167	194	116	1.23	2.08	5.71	1.44	1.67
-15	(+ 5)	853	215	250	133	1.40	2.68	6.42	1.62	1.88
-10	(+14)	1083	273	317	151	1.59	3.42	7.17	1.81	2.10

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
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 + 45° 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		