

COMPRESSOR DEFINITION

Designation	ES C55CBT
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	518100014

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	115-127 / 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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 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	7.87	[cm ³] (0.480 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	19.800	
3 Lubricant charge	115	[ml] (3.89 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	5.2	[kg] (11.46 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	5SP14X302K	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	12(180)	[μF(VAC minimum)]
5 Motor protection	4TM302KFBYY-53	
6 Start winding resistance	7.36	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.28	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	7.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.94	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.20	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]
563	142	165	92	0.82	1.77	6.11	1.54	1.79

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			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)	337	85	99	64	0.56	1.05	5.27	1.33	1.54
-30	(-22)	449	113	131	72	0.64	1.41	6.22	1.57	1.82
-25	(-13)	585	147	171	81	0.72	1.83	7.22	1.82	2.12
-20	(- 4)	747	188	219	90	0.81	2.35	8.29	2.09	2.43
-15	(+ 5)	937	236	275	100	0.89	2.95	9.43	2.38	2.76
-10	(+14)	1158	292	339	109	0.97	3.65	10.68	2.69	3.13

TEST CONDITIONS: @115V60Hz			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)	306	77	90	65	0.57	0.96	4.76	1.20	1.39
-30	(-22)	415	105	122	74	0.65	1.30	5.60	1.41	1.64
-25	(-13)	549	138	161	85	0.75	1.72	6.46	1.63	1.89
-20	(- 4)	710	179	208	96	0.86	2.23	7.36	1.85	2.16
-15	(+ 5)	901	227	264	108	0.97	2.83	8.30	2.09	2.43
-10	(+14)	1122	283	329	120	1.09	3.54	9.31	2.35	2.73

TEST CONDITIONS: @115V60Hz			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)	279	70	82	64	0.56	0.87	4.35	1.10	1.27
-30	(-22)	382	96	112	75	0.65	1.20	5.09	1.28	1.49
-25	(-13)	512	129	150	88	0.76	1.61	5.82	1.47	1.71
-20	(- 4)	670	169	196	102	0.89	2.10	6.55	1.65	1.92
-15	(+ 5)	857	216	251	117	1.03	2.70	7.31	1.84	2.14
-10	(+14)	1076	271	315	133	1.18	3.40	8.09	2.04	2.37

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal ES/FMS		
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 parallel to Base Plate		
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 to Base Plate		
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 45° up		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		