

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	TSD	
2.1 Starting device	TSD2.1-115V1.0	
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	91	0.81	1.77	6.21	1.56	1.82

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	62	0.55	1.05	5.39	1.36	1.58
-30 (-22)	449	113	131	71	0.62	1.41	6.35	1.60	1.86
-25 (-13)	585	147	171	79	0.71	1.83	7.36	1.85	2.16
-20 (- 4)	747	188	219	89	0.80	2.35	8.43	2.12	2.47
-15 (+ 5)	937	236	275	98	0.88	2.95	9.58	2.41	2.81
-10 (+14)	1158	292	339	107	0.96	3.65	10.83	2.73	3.17

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	63	0.55	0.96	4.87	1.23	1.43
-30 (-22)	415	105	122	73	0.63	1.30	5.72	1.44	1.68
-25 (-13)	549	138	161	83	0.73	1.72	6.58	1.66	1.93
-20 (- 4)	710	179	208	95	0.84	2.23	7.47	1.88	2.19
-15 (+ 5)	901	227	264	107	0.96	2.83	8.42	2.12	2.47
-10 (+14)	1122	283	329	119	1.07	3.54	9.43	2.38	2.76

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	63	0.55	0.87	4.45	1.12	1.30
-30 (-22)	382	96	112	74	0.64	1.20	5.19	1.31	1.52
-25 (-13)	512	129	150	87	0.75	1.61	5.92	1.49	1.74
-20 (- 4)	670	169	196	101	0.88	2.10	6.65	1.68	1.95
-15 (+ 5)	857	216	251	116	1.02	2.70	7.40	1.87	2.17
-10 (+14)	1076	271	315	131	1.17	3.40	8.19	2.06	2.40

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		