

COMPRESSOR DEFINITION

Designation	ES C40CBT
Nominal Voltage/Frequency	115-127 V 60 Hz / 110 V 50 Hz
Engineering Number	518100008

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	98 to 127 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	98 to 127 V	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	6.23	[cm ³] (0.380 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	18.000	
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)	5.3	[kg] (11.68 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60Hz / 110 V 50 Hz 1~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-115V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	8(180)	[µF(VAC minimum)]
5 Motor protection	4TM283KFBYY-53	
6 Start winding resistance	7.76	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	6.30/6.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.97/0.97	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.06/1.06	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			GEALBP Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 40.5°C (104.9°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]
479	121	140	66	0.62	1.50	7.26	1.83	2.13

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			GEA 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)	256	65	75	46	0.46	0.00	5.54	1.40	1.62
-30 (-22)	345	87	101	54	0.52	0.00	6.42	1.62	1.88
-25 (-13)	453	114	133	61	0.58	0.00	7.41	1.87	2.17
-20 (- 4)	584	147	171	69	0.65	0.00	8.52	2.15	2.50
-15 (+ 5)	739	186	216	76	0.71	0.00	9.75	2.46	2.86
-10 (+14)	921	232	270	83	0.78	0.00	11.11	2.80	3.26

TEST CONDITIONS: @115V60Hz			GEA 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)	234	59	69	47	0.46	0.00	5.03	1.27	1.47
-30 (-22)	322	81	94	55	0.53	0.00	5.81	1.46	1.70
-25 (-13)	429	108	126	64	0.61	0.00	6.64	1.67	1.95
-20 (- 4)	557	140	163	74	0.69	0.00	7.55	1.90	2.21
-15 (+ 5)	708	179	208	83	0.78	0.00	8.52	2.15	2.50
-10 (+14)	886	223	260	92	0.87	0.00	9.58	2.41	2.81

TEST CONDITIONS: @115V60Hz			GEA 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)	208	52	61	46	0.46	0.00	4.51	1.14	1.32
-30 (-22)	294	74	86	56	0.54	0.00	5.23	1.32	1.53
-25 (-13)	398	100	117	67	0.63	0.00	5.97	1.50	1.75
-20 (- 4)	523	132	153	78	0.73	0.00	6.72	1.69	1.97
-15 (+ 5)	670	169	196	89	0.84	0.00	7.50	1.89	2.20
-10 (+14)	843	212	247	102	0.95	0.00	8.30	2.09	2.43

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 90° up		
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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		