

COMPRESSOR DEFINITION

Designation	ES U55CBC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	518100019

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	5SP14X 115V/5SP21X 115V	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	12(180)	[μF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	7.22	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.58	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	9.15	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.32	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.54	[A] - Measured according to UL 984
11 Approval boards certification	NOM - 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]
560	141	164	103	1.03	1.76	5.44	1.37	1.59

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)	332	84	97	68	0.75	1.04	4.87	1.23	1.43
-30 (-22)	445	112	131	78	0.82	1.40	5.70	1.44	1.67
-25 (-13)	580	146	170	88	0.90	1.82	6.59	1.66	1.93
-20 (- 4)	740	187	217	98	0.99	2.33	7.57	1.91	2.22
-15 (+ 5)	930	234	272	108	1.07	2.93	8.66	2.18	2.54
-10 (+14)	1152	290	338	117	1.15	3.63	9.87	2.49	2.89

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)	311	78	91	70	0.76	0.97	4.46	1.13	1.31
-30 (-22)	420	106	123	81	0.84	1.32	5.18	1.31	1.52
-25 (-13)	550	139	161	92	0.94	1.73	5.93	1.49	1.74
-20 (- 4)	706	178	207	105	1.04	2.22	6.73	1.70	1.97
-15 (+ 5)	891	225	261	117	1.15	2.81	7.60	1.92	2.23
-10 (+14)	1111	280	325	130	1.26	3.50	8.58	2.16	2.51

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)	281	71	82	71	0.76	0.88	3.96	1.00	1.16
-30 (-22)	384	97	113	83	0.86	1.20	4.61	1.16	1.35
-25 (-13)	510	128	149	97	0.97	1.60	5.27	1.33	1.55
-20 (- 4)	661	167	194	111	1.09	2.08	5.96	1.50	1.74
-15 (+ 5)	843	212	247	126	1.22	2.65	6.68	1.68	1.96
-10 (+14)	1059	267	310	142	1.36	3.34	7.47	1.88	2.19

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	242	61	71	73	0.76	0.76	3.32	0.84	0.97
-30	(-22)	340	86	100	86	0.87	1.07	3.98	1.00	1.17
-25	(-13)	460	116	135	100	0.99	1.45	4.61	1.16	1.35
-20	(- 4)	608	153	178	117	1.13	1.91	5.22	1.32	1.53
-15	(+ 5)	786	198	230	134	1.29	2.47	5.85	1.48	1.72
-10	(+14)	999	252	293	153	1.45	3.15	6.52	1.64	1.91

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal ES/FMS		
2 Tray holder	Yes		
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	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		