

COMPRESSOR DEFINITION

Designation	ES Y55CBP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	518100018

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)	-	-	-
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	[kg] (11.02 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	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	12(250)	[μF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	7.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.96	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[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	101	0.98	1.76	5.57	1.40	1.63

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)	333	84	97	66	0.75	1.04	5.06	1.27	1.48
-30 (-22)	444	112	130	76	0.82	1.39	5.82	1.47	1.71
-25 (-13)	579	146	170	86	0.90	1.82	6.71	1.69	1.97
-20 (- 4)	740	187	217	96	0.98	2.32	7.73	1.95	2.26
-15 (+ 5)	931	234	273	105	1.07	2.93	8.86	2.23	2.59
-10 (+14)	1154	291	338	114	1.15	3.64	10.09	2.54	2.96

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)	313	79	92	68	0.75	0.98	4.61	1.16	1.35
-30 (-22)	419	106	123	80	0.83	1.31	5.24	1.32	1.53
-25 (-13)	548	138	161	92	0.93	1.72	5.96	1.50	1.75
-20 (- 4)	704	177	206	103	1.03	2.21	6.79	1.71	1.99
-15 (+ 5)	890	224	261	115	1.14	2.80	7.70	1.94	2.26
-10 (+14)	1110	280	325	128	1.25	3.50	8.69	2.19	2.55

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)	286	72	84	70	0.76	0.90	4.13	1.04	1.21
-30 (-22)	385	97	113	83	0.84	1.21	4.68	1.18	1.37
-25 (-13)	509	128	149	96	0.95	1.60	5.31	1.34	1.56
-20 (- 4)	661	167	194	110	1.08	2.08	6.01	1.51	1.76
-15 (+ 5)	843	212	247	124	1.21	2.65	6.77	1.71	1.98
-10 (+14)	1060	267	311	140	1.35	3.34	7.58	1.91	2.22

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)	245	62	72	70	0.76	0.77	3.48	0.88	1.02
-30	(-22)	339	85	99	84	0.86	1.06	4.02	1.01	1.18
-25	(-13)	458	115	134	99	0.98	1.44	4.62	1.16	1.35
-20	(- 4)	605	153	177	115	1.12	1.90	5.25	1.32	1.54
-15	(+ 5)	784	198	230	133	1.28	2.47	5.92	1.49	1.74
-10	(+14)	998	252	293	151	1.45	3.15	6.62	1.67	1.94

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		