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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	-	-	-
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	7.87	[cm³] (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/cm²]

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	8EA14C3/8EA14E62/8EA14E63/8EA14E64/8EA21C3/QPS2-A4	
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 25ºC (77ºF)] +/- 8%
7 Run winding resistance	5.96	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	9.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.72	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.96	[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: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V60Hz **Static**

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	98	66	0.75	1.04	5.06	1.28	1.48
-30	**(-22)**	445	112	131	76	0.82	1.40	5.84	1.47	1.71
-25	**(-13)**	580	146	170	86	0.90	1.82	6.73	1.69	1.97
-20	**(- 4)**	740	187	217	96	0.98	2.33	7.73	1.95	2.27
-15	**(+ 5)**	930	234	273	105	1.07	2.93	8.85	2.23	2.59
-10	**(+14)**	1153	291	338	114	1.15	3.64	10.08	2.54	2.95

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V60Hz **Static**

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	68	0.75	0.97	4.57	1.15	1.34
-30	**(-22)**	418	105	122	80	0.83	1.31	5.22	1.32	1.53
-25	**(-13)**	548	138	161	92	0.93	1.72	5.97	1.50	1.75
-20	**(- 4)**	704	178	206	103	1.03	2.21	6.80	1.71	1.99
-15	**(+ 5)**	891	224	261	115	1.14	2.80	7.71	1.94	2.26
-10	**(+14)**	1111	280	325	128	1.25	3.50	8.71	2.19	2.55

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V60Hz **Static**

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)**	280	71	82	70	0.76	0.88	4.04	1.02	1.18
-30	**(-22)**	382	96	112	83	0.84	1.20	4.63	1.17	1.36
-25	**(-13)**	507	128	149	96	0.95	1.59	5.28	1.33	1.55
-20	**(- 4)**	659	166	193	110	1.08	2.07	5.99	1.51	1.75
-15	**(+ 5)**	842	212	247	124	1.21	2.65	6.75	1.70	1.98
-10	**(+14)**	1059	267	310	140	1.35	3.34	7.57	1.91	2.22

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**

@115V60Hz **Static**

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)**	243	61	71	70	0.76	0.76	3.45	0.87	1.01
-30	**(-22)**	339	85	99	84	0.86	1.06	4.03	1.02	1.18
-25	**(-13)**	459	116	134	99	0.98	1.44	4.64	1.17	1.36
-20	**(- 4)**	606	153	178	115	1.12	1.91	5.27	1.33	1.54
-15	**(+ 5)**	785	198	230	133	1.28	2.47	5.93	1.50	1.74
-10	**(+14)**	999	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		