

COMPRESSOR DEFINITION

Designation	ES X36CBC
Nominal Voltage/Frequency	115-127 V 60 Hz / 110 V 50 Hz
Engineering Number	518100012

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	5.68	[cm ³] (0.347 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.400	
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	TSD2.1-115V1.0	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	8(180)	[µF(VAC minimum)]
5 Motor protection	4TM283KFBYY-53	
6 Start winding resistance	10.93	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.52	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	5.35/5.35	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.83/0.83	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	0.96/0.96	[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]
430	108	126	61	0.57	1.35	7.05	1.78	2.07

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)	222	56	65	44	0.42	0.00	4.99	1.26	1.46
-30	(-22)	292	74	85	51	0.47	0.00	5.72	1.44	1.68
-25	(-13)	388	98	114	58	0.53	0.00	6.71	1.69	1.97
-20	(- 4)	510	128	149	64	0.59	0.00	7.88	1.99	2.31
-15	(+ 5)	657	166	193	71	0.65	0.00	9.19	2.32	2.69
-10	(+14)	830	209	243	79	0.71	0.00	10.57	2.66	3.10

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)	239	60	70	46	0.43	0.00	5.26	1.33	1.54
-30	(-22)	297	75	87	53	0.50	0.00	5.61	1.41	1.64
-25	(-13)	380	96	111	61	0.57	0.00	6.20	1.56	1.82
-20	(- 4)	488	123	143	70	0.64	0.00	6.97	1.76	2.04
-15	(+ 5)	620	156	182	78	0.72	0.00	7.86	1.98	2.30
-10	(+14)	776	196	227	87	0.80	0.00	8.80	2.22	2.58

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)	235	59	69	44	0.41	0.00	5.38	1.36	1.58
-30	(-22)	293	74	86	54	0.49	0.00	5.60	1.41	1.64
-25	(-13)	374	94	110	64	0.58	0.00	6.05	1.52	1.77
-20	(- 4)	479	121	140	74	0.67	0.00	6.65	1.68	1.95
-15	(+ 5)	607	153	178	85	0.77	0.00	7.36	1.86	2.16
-10	(+14)	758	191	222	95	0.87	0.00	8.11	2.04	2.38

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		GEA 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)	136	34	40	38	0.37	0.00	3.59	0.91	1.05
-30	(-22)	204	51	60	51	0.47	0.00	3.93	0.99	1.15
-25	(-13)	294	74	86	64	0.58	0.00	4.48	1.13	1.31
-20	(- 4)	407	103	119	77	0.70	0.00	5.18	1.30	1.52
-15	(+ 5)	543	137	159	90	0.82	0.00	5.96	1.50	1.75
-10	(+14)	700	176	205	103	0.94	0.00	6.77	1.71	1.98

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		