

COMPRESSOR DEFINITION

Designation	ES Z36CBC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	518100028

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	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	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Combo	
2.1 Starting device	8EA14E64/QPS2-C4R7MD3108	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	8(180)	[µF(VAC minimum)]
5 Motor protection	DRB21K61A2	
6 Start winding resistance	11.59	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.39	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	5.61	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.92	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.11	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
389	98	114	70	0.60	1.22	5.58	1.41	1.64

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static				(Condensing temperature 35°C (+95°F))				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	222	56	65	47	0.43	0.69	4.72	1.19	1.38
-30	(-22)	301	76	88	54	0.48	0.94	5.57	1.40	1.63
-25	(-13)	397	100	116	61	0.54	1.25	6.53	1.65	1.91
-20	(- 4)	513	129	150	67	0.59	1.61	7.62	1.92	2.23
-15	(+ 5)	652	164	191	73	0.63	2.05	8.88	2.24	2.60
-10	(+14)	819	206	240	79	0.68	2.58	10.35	2.61	3.03

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F))				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	200	50	59	48	0.44	0.63	4.16	1.05	1.22
-30	(-22)	283	71	83	56	0.50	0.89	5.04	1.27	1.48
-25	(-13)	380	96	111	64	0.55	1.19	5.93	1.49	1.74
-20	(- 4)	495	125	145	72	0.61	1.55	6.87	1.73	2.01
-15	(+ 5)	630	159	185	80	0.68	1.98	7.90	1.99	2.32
-10	(+14)	791	199	232	87	0.74	2.50	9.05	2.28	2.65

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static				(Condensing temperature 55°C (+131°F))				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	162	41	48	49	0.45	0.51	3.32	0.84	0.97
-30	(-22)	251	63	73	58	0.51	0.79	4.31	1.09	1.26
-25	(-13)	350	88	103	67	0.57	1.10	5.23	1.32	1.53
-20	(- 4)	465	117	136	76	0.64	1.46	6.12	1.54	1.79
-15	(+ 5)	599	151	176	85	0.72	1.89	7.01	1.77	2.05
-10	(+14)	756	191	222	95	0.80	2.39	7.93	2.00	2.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	109	27	32	50	0.46	0.34	2.16	0.55	0.63
-30	(-22)	204	51	60	60	0.52	0.64	3.36	0.85	0.99
-25	(-13)	308	78	90	69	0.60	0.97	4.41	1.11	1.29
-20	(- 4)	425	107	124	80	0.68	1.34	5.34	1.35	1.56
-15	(+ 5)	558	141	164	91	0.76	1.76	6.18	1.56	1.81
-10	(+14)	713	180	209	102	0.86	2.25	6.98	1.76	2.04

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard ES/FMS		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	7.6 +0.05/-0.05	[mm]	(0.299" +0.002"/-0.002")
3.1.1 Material	Copper(OD)		
3.1.2 Shape	Slanted parallel to Base Plate		
3.2 DISCHARGE	4.25 +0.05/-0.05	[mm]	(0.167" +0.002"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted parallel BP+50°to up		
3.3 PROCESS	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted parallel BP+45°to up		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		