

COMPRESSOR DEFINITION

Designation	EM 30SC
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513302940

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
3 Nominal voltage and frequency	115 / 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 135 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 135 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.5	[kgf/cm ²] (206 psig)	/ °C - °F
9.2 Peak	18.2	[kgf/cm ²] (259 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	3.00	[cm ³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	200	[ml] (6.76 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO32	
4 Weight (with oil charge)	7.1	[kg] (15.65 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 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14C3/8EA4B3/QPS2-A4R7MD3	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	12(180)	[μF(VAC minimum)]
5 Motor protection	4TM197NFBYY-53	
6 Start winding resistance	6.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.15	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	5.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.80	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - 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]
315	79	92	79	0.73	2.31	4.01	1.01	1.18

E - PERFORMANCE - CURVES

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)	158	40	46	59	0.56	1.15	2.66	0.67	0.78
-30 (-22)	225	57	66	68	0.62	1.64	3.33	0.84	0.98
-25 (-13)	309	78	90	75	0.68	2.26	4.13	1.04	1.21
-20 (- 4)	409	103	120	82	0.75	3.00	4.99	1.26	1.46
-15 (+ 5)	525	132	154	89	0.82	3.86	5.88	1.48	1.72
-10 (+14)	657	165	192	98	0.89	4.84	6.72	1.69	1.97

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)	137	34	40	57	0.54	1.00	2.39	0.60	0.70
-30 (-22)	201	51	59	67	0.61	1.47	3.02	0.76	0.88
-25 (-13)	281	71	82	75	0.68	2.06	3.75	0.95	1.10
-20 (- 4)	379	95	111	83	0.75	2.77	4.54	1.14	1.33
-15 (+ 5)	492	124	144	92	0.83	3.61	5.33	1.34	1.56
-10 (+14)	620	156	182	102	0.91	4.57	6.08	1.53	1.78

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)	90	23	26	55	0.52	0.66	1.67	0.42	0.49
-30 (-22)	150	38	44	66	0.60	1.10	2.26	0.57	0.66
-25 (-13)	227	57	67	76	0.68	1.66	2.96	0.74	0.87
-20 (- 4)	320	81	94	86	0.77	2.35	3.69	0.93	1.08
-15 (+ 5)	429	108	126	97	0.86	3.16	4.42	1.11	1.30
-10 (+14)	554	140	162	109	0.95	4.09	5.09	1.28	1.49

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
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 plated steel		
3.1.2 Shape	Straight		
3.2 DISCHARGE	5 +0.18/-0.06	[mm]	(0.197" +0.007"/-0.002")
3.2.1 Material	Copper plated steel		
3.2.2 Shape	Slanted		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper plated steel		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		