

COMPRESSOR DEFINITION

Designation	EM CS60CLC
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513301906

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220 / 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	-	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 to 242 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	0.13	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.5	[kg] (16.53 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Combo	
2.1 Starting device	8EA17C3/8EA17E64/QPS2-C22MD3107	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM189NFBYY-53	
6 Start winding resistance	17.86	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	27.22	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	3.81	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.56	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
649	163	190	103	0.49	2.04	6.27	1.58	1.84

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	377	95	111	69	0.35	1.18	5.43	1.37	1.59
-30	(-22)	503	127	147	80	0.39	1.58	6.30	1.59	1.85
-25	(-13)	649	164	190	90	0.43	2.04	7.27	1.83	2.13
-20	(- 4)	825	208	242	99	0.47	2.59	8.32	2.10	2.44
-15	(+ 5)	1038	262	304	109	0.52	3.27	9.48	2.39	2.78
-10	(+14)	1298	327	380	120	0.57	4.09	10.76	2.71	3.15

TEST CONDITIONS: @220V60Hz		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)	363	92	106	72	0.36	1.14	5.04	1.27	1.48
-30	(-22)	486	122	142	84	0.40	1.52	5.80	1.46	1.70
-25	(-13)	627	158	184	95	0.45	1.97	6.60	1.66	1.93
-20	(- 4)	795	200	233	107	0.50	2.50	7.45	1.88	2.18
-15	(+ 5)	999	252	293	119	0.56	3.14	8.37	2.11	2.45
-10	(+14)	1246	314	365	133	0.62	3.93	9.36	2.36	2.74

TEST CONDITIONS: @220V60Hz		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)	336	85	98	74	0.37	1.05	4.57	1.15	1.34
-30	(-22)	458	115	134	87	0.42	1.44	5.27	1.33	1.54
-25	(-13)	596	150	175	100	0.48	1.87	5.98	1.51	1.75
-20	(- 4)	758	191	222	113	0.54	2.38	6.70	1.69	1.96
-15	(+ 5)	953	240	279	128	0.60	3.00	7.44	1.87	2.18
-10	(+14)	1190	300	349	145	0.67	3.76	8.21	2.07	2.41

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	296	75	87	75	0.38	0.93	3.95	1.00	1.16
-30	(-22)	419	105	123	89	0.44	1.31	4.67	1.18	1.37
-25	(-13)	555	140	163	103	0.50	1.74	5.35	1.35	1.57
-20	(- 4)	713	180	209	119	0.57	2.24	6.01	1.51	1.76
-15	(+ 5)	901	227	264	136	0.65	2.84	6.65	1.68	1.95
-10	(+14)	1129	285	331	155	0.73	3.56	7.28	1.84	2.13

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
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	Straight		
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 45° up		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		