

COMPRESSOR DEFINITION

Designation	EM X20CLC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513309535

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	1/12	[hp]
2 Displacement	3.97	[cm ³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.88	[kg] (17.37 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	8EA14C3/8EA21C3/QPS2-A4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(165)	[µF(VAC minimum)]
5 Motor protection	4TM142RFBYY-53	
6 Start winding resistance	6.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.65	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	3.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.55	[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 - TUV - UKCA - UL	

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 +/- 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]
262	66	77	49	0.51	0.82	5.31	1.34	1.56

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	150	38	44	35	0.47	0.47	4.26	1.07	1.25
-30 (-22)	209	53	61	40	0.48	0.65	5.23	1.32	1.53
-25 (-13)	271	68	79	44	0.50	0.85	6.15	1.55	1.80
-20 (- 4)	344	87	101	48	0.51	1.08	7.12	1.79	2.09
-15 (+ 5)	436	110	128	53	0.54	1.37	8.22	2.07	2.41
-10 (+14)	553	139	162	57	0.57	1.74	9.55	2.41	2.80

TEST CONDITIONS: @127V60Hz		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)	135	34	39	35	0.47	0.42	3.84	0.97	1.12
-30 (-22)	196	49	57	40	0.48	0.61	4.86	1.22	1.42
-25 (-13)	259	65	76	45	0.50	0.81	5.76	1.45	1.69
-20 (- 4)	331	84	97	50	0.52	1.04	6.62	1.67	1.94
-15 (+ 5)	421	106	123	55	0.56	1.32	7.56	1.90	2.21
-10 (+14)	534	135	157	61	0.60	1.69	8.65	2.18	2.53

TEST CONDITIONS: @127V60Hz		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)	106	27	31	34	0.47	0.33	3.12	0.79	0.91
-30 (-22)	170	43	50	40	0.48	0.53	4.22	1.06	1.24
-25 (-13)	233	59	68	46	0.51	0.73	5.12	1.29	1.50
-20 (- 4)	305	77	89	52	0.54	0.96	5.93	1.49	1.74
-15 (+ 5)	391	99	115	58	0.58	1.23	6.73	1.69	1.97
-10 (+14)	501	126	147	65	0.63	1.58	7.61	1.92	2.23

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	79	20	23	33	0.47	0.25	2.39	0.60	0.70
-30	(-22)	144	36	42	39	0.48	0.45	3.60	0.91	1.06
-25	(-13)	209	53	61	46	0.51	0.65	4.55	1.15	1.33
-20	(- 4)	279	70	82	53	0.54	0.88	5.32	1.34	1.56
-15	(+ 5)	363	91	106	61	0.59	1.14	6.02	1.52	1.76
-10	(+14)	469	118	137	70	0.65	1.48	6.72	1.69	1.97

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
2 Tray holder	Yes		
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 42° up + 45° to Back		
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 BP+24°to Back		
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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		