

COMPRESSOR DEFINITION

Designation	EM X20CLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513309500

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220-240 / 50	[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	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	V230	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	2(380)	[µF(VAC minimum)]
5 Motor protection	T0285/07	
6 Start winding resistance	34.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	47.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	1.95	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - UKCA - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			CECOMAFLBP Static		Evaporating temperature (Condensing temperature		-25°C (-13°F) 55°C (131°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]
158	40	46	39	0.17	0.60	4.03	1.02	1.18

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	105	26	31	29	0.14	0.36	3.55	0.90	1.04
-30 (-22)	145	37	43	34	0.15	0.51	4.33	1.09	1.27
-25 (-13)	195	49	57	38	0.17	0.68	5.14	1.29	1.50
-20 (- 4)	253	64	74	42	0.19	0.88	6.00	1.51	1.76
-15 (+ 5)	322	81	94	47	0.21	1.13	6.93	1.75	2.03
-10 (+14)	402	101	118	51	0.23	1.41	7.95	2.00	2.33

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	82	21	24	30	0.14	0.31	2.75	0.69	0.81
-30 (-22)	117	29	34	34	0.16	0.45	3.41	0.86	1.00
-25 (-13)	160	40	47	39	0.18	0.61	4.07	1.03	1.19
-20 (- 4)	211	53	62	44	0.20	0.81	4.76	1.20	1.39
-15 (+ 5)	272	69	80	50	0.23	1.04	5.47	1.38	1.60
-10 (+14)	344	87	101	55	0.26	1.32	6.24	1.57	1.83

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	61	15	18	29	0.14	0.26	2.08	0.52	0.61
-30 (-22)	91	23	27	34	0.16	0.39	2.67	0.67	0.78
-25 (-13)	129	32	38	40	0.18	0.54	3.24	0.82	0.95
-20 (- 4)	174	44	51	46	0.21	0.74	3.79	0.96	1.11
-15 (+ 5)	228	58	67	53	0.24	0.97	4.35	1.10	1.27
-10 (+14)	292	74	86	59	0.27	1.24	4.91	1.24	1.44

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
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 90° up + 24° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		