

### COMPRESSOR DEFINITION

Designation	EM X20CLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	700IA89

### 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-Medium Back Pressure (Light Commercial)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
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 <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/12	[hp]
2 Displacement	3.97	[cm <sup>3</sup> ] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
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)	7.1	[kg] (15.65 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD-220V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	2(350)/4(350)/2.5(350)	[µF(VAC minimum)]
5 Motor protection	4TM110KFBYY-73	
6 Start winding resistance	37.74	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	68.28	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	2.07	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.34	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.41	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			CECOMAFLBP-NOFAN 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]
165	42	48	37	0.17	0.63	4.42	1.11	1.30

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		CECOMAF-NOFAN 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)	119	30	35	25	0.13	0.38	4.72	1.19	1.38
-30	(-22)	167	42	49	29	0.14	0.54	5.77	1.45	1.69
-25	(-13)	224	57	66	33	0.15	0.72	6.85	1.73	2.01
-20	(- 4)	292	73	85	37	0.17	0.94	7.98	2.01	2.34
-15	(+ 5)	370	93	109	40	0.18	1.19	9.22	2.32	2.70
-10	(+14)	461	116	135	44	0.20	1.49	10.60	2.67	3.11
-5	(+23)	566	143	166	47	0.21	1.83	12.17	3.07	3.56
0	(+32)	685	173	201	49	0.22	2.22	13.95	3.52	4.09

TEST CONDITIONS: @220V50Hz		CECOMAF-NOFAN 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)	107	27	31	28	0.13	0.37	3.82	0.96	1.12
-30	(-22)	149	38	44	32	0.14	0.52	4.70	1.18	1.38
-25	(-13)	199	50	58	36	0.16	0.69	5.55	1.40	1.63
-20	(- 4)	258	65	76	40	0.18	0.90	6.42	1.62	1.88
-15	(+ 5)	327	82	96	45	0.20	1.14	7.35	1.85	2.15
-10	(+14)	407	103	119	49	0.22	1.43	8.37	2.11	2.45
-5	(+23)	500	126	146	53	0.24	1.75	9.53	2.40	2.79
0	(+32)	605	152	177	56	0.26	2.13	10.86	2.74	3.18

TEST CONDITIONS: @220V50Hz		CECOMAF-NOFAN 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)	84	21	25	28	0.13	0.32	2.96	0.74	0.87
-30	(-22)	122	31	36	33	0.15	0.46	3.73	0.94	1.09
-25	(-13)	166	42	49	37	0.17	0.63	4.43	1.12	1.30
-20	(- 4)	218	55	64	43	0.19	0.83	5.11	1.29	1.50
-15	(+ 5)	279	70	82	48	0.22	1.07	5.80	1.46	1.70
-10	(+14)	349	88	102	53	0.25	1.34	6.53	1.65	1.91
-5	(+23)	430	108	126	58	0.27	1.66	7.36	1.85	2.16
0	(+32)	523	132	153	63	0.30	2.02	8.31	2.10	2.44

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		CECOMAF-NOFAN 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)	60	15	18	27	0.13	0.25	2.19	0.55	0.64
-30	(-22)	95	24	28	32	0.15	0.40	2.93	0.74	0.86
-25	(-13)	135	34	39	38	0.17	0.57	3.56	0.90	1.04
-20	(- 4)	181	46	53	44	0.20	0.76	4.11	1.04	1.21
-15	(+ 5)	234	59	69	51	0.23	0.99	4.63	1.17	1.36
-10	(+14)	296	75	87	57	0.26	1.26	5.15	1.30	1.51
-5	(+23)	367	93	108	64	0.30	1.57	5.72	1.44	1.68
0	(+32)	449	113	132	71	0.33	1.93	6.37	1.60	1.87

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
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	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 42° up + 45° 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		