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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	-	-	-
8.2 LBP (43ºC Ambient temperature)	-	-	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/12	[hp]
2 Displacement	3.97	[cm³] (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/cm²]

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 25ºC (77ºF)] +/- 8%
7 Run winding resistance	68.28	[Ω at 25ºC (77ºF)] +/- 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**			**ASHRAE LBP-NOFAN** **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]
214	54	63	38	0.18	0.67	5.68	1.43	1.66

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz** — **ASHRAE32-NOFAN** **Static** — (Condensing temperature **35ºC (+95ºF))**

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)**	114	29	33	26	0.13	0.36	4.47	1.13	1.31
-30	**(-22)**	163	41	48	29	0.14	0.51	5.57	1.40	1.63
-25	**(-13)**	220	55	64	33	0.15	0.69	6.72	1.69	1.97
-20	**(- 4)**	288	73	84	36	0.17	0.90	7.94	2.00	2.33
-15	**(+ 5)**	369	93	108	40	0.18	1.16	9.26	2.33	2.71
-10	**(+14)**	464	117	136	43	0.20	1.46	10.71	2.70	3.14
-5	**(+23)**	576	145	169	47	0.21	1.82	12.31	3.10	3.61
0	**(+32)**	708	178	207	50	0.22	2.24	14.08	3.55	4.12

TEST CONDITIONS: **@220V50Hz** — **ASHRAE32-NOFAN** **Static** — (Condensing temperature **45ºC (+113ºF))**

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)**	116	29	34	28	0.13	0.36	4.16	1.05	1.22
-30	**(-22)**	161	41	47	31	0.14	0.51	5.11	1.29	1.50
-25	**(-13)**	215	54	63	35	0.16	0.67	6.06	1.53	1.78
-20	**(- 4)**	279	70	82	40	0.18	0.88	7.06	1.78	2.07
-15	**(+ 5)**	355	89	104	44	0.20	1.12	8.11	2.04	2.38
-10	**(+14)**	445	112	130	48	0.22	1.40	9.25	2.33	2.71
-5	**(+23)**	552	139	162	53	0.24	1.75	10.50	2.65	3.08
0	**(+32)**	677	171	198	57	0.26	2.15	11.88	2.99	3.48

TEST CONDITIONS: **@220V50Hz** — **ASHRAE32-NOFAN** **Static** — (Condensing temperature **55ºC (+131ºF))**

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)**	100	25	29	28	0.13	0.31	3.58	0.90	1.05
-30	**(-22)**	144	36	42	32	0.15	0.45	4.45	1.12	1.30
-25	**(-13)**	195	49	57	37	0.17	0.61	5.30	1.33	1.55
-20	**(- 4)**	256	65	75	42	0.19	0.80	6.14	1.55	1.80
-15	**(+ 5)**	329	83	96	47	0.22	1.04	7.00	1.76	2.05
-10	**(+14)**	416	105	122	53	0.25	1.31	7.90	1.99	2.32
-5	**(+23)**	519	131	152	58	0.27	1.64	8.88	2.24	2.60
0	**(+32)**	641	161	188	64	0.30	2.03	9.95	2.51	2.92

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32-NOFAN** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Static**

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)**	81	20	24	27	0.13	0.25	2.96	0.75	0.87
-30	**(-22)**	124	31	36	32	0.15	0.39	3.83	0.97	1.12
-25	**(-13)**	175	44	51	38	0.17	0.55	4.64	1.17	1.36
-20	**(- 4)**	236	59	69	44	0.20	0.74	5.40	1.36	1.58
-15	**(+ 5)**	308	78	90	50	0.23	0.97	6.15	1.55	1.80
-10	**(+14)**	393	99	115	57	0.26	1.24	6.90	1.74	2.02
-5	**(+23)**	494	125	145	64	0.30	1.56	7.69	1.94	2.25
0	**(+32)**	613	155	180	72	0.33	1.95	8.53	2.15	2.50

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 42º 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 42º 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		