

COMPRESSOR DEFINITION

Designation	EM X70CLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513309560

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	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 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	1/4	[hp]
2 Displacement	11.14	[cm ³] (0.680 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	21.000	
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)	8.6	[kg] (18.96 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL 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-220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(300)	[µF(VAC minimum)]
5 Motor protection	4TM276KFBYY-73	
6 Start winding resistance	14.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	18.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	4.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.85	[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			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
652	164	191	114	0.55	2.05	5.70	1.44	1.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	389	98	114	85	0.46	1.22	4.57	1.15	1.34
-30	(-22)	488	123	143	91	0.44	1.53	5.35	1.35	1.57
-25	(-13)	621	156	182	103	0.48	1.95	6.07	1.53	1.78
-20	(- 4)	789	199	231	117	0.56	2.48	6.75	1.70	1.98
-15	(+ 5)	995	251	292	134	0.65	3.13	7.42	1.87	2.17
-10	(+14)	1241	313	364	153	0.75	3.91	8.12	2.05	2.38

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	357	90	105	84	0.41	1.12	4.25	1.07	1.24
-30	(-22)	457	115	134	93	0.41	1.43	4.94	1.24	1.45
-25	(-13)	590	149	173	106	0.46	1.85	5.56	1.40	1.63
-20	(- 4)	759	191	222	123	0.55	2.38	6.15	1.55	1.80
-15	(+ 5)	964	243	282	143	0.66	3.03	6.73	1.70	1.97
-10	(+14)	1208	304	354	165	0.78	3.81	7.33	1.85	2.15

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	334	84	98	84	0.46	1.05	3.97	1.00	1.16
-30	(-22)	428	108	126	94	0.46	1.34	4.56	1.15	1.34
-25	(-13)	556	140	163	109	0.52	1.74	5.08	1.28	1.49
-20	(- 4)	717	181	210	129	0.62	2.26	5.57	1.40	1.63
-15	(+ 5)	916	231	268	152	0.73	2.88	6.04	1.52	1.77
-10	(+14)	1153	291	338	176	0.86	3.64	6.53	1.65	1.91

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate 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 parallel BP+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 30° up + 24° to Back		
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 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		