

COMPRESSOR DEFINITION

Designation	EM 2C46CLT
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513304578

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 pressures/temperature			
9.1 Operating (gauge)	7.7	[kgf/cm ²] (109 psig)	/ °C - °F
9.2 Peak (gauge)	9.8	[kgf/cm ²] (139 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	7.96	[cm ³] (0.486 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	17.600	
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)	7.68	[kg] (16.93 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	TSD	
2.1 Starting device	M.I.E-START 2021	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(310)	[µF(VAC minimum)]
5 Motor protection	AE37FN	
6 Start winding resistance	20.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	23.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	4.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[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]
468	118	137	77	0.34	1.47	6.08	1.53	1.78

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32-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)	280	71	82	52	0.25	0.88	5.37	1.35	1.57
-30 (-22)	375	95	110	60	0.29	1.18	6.24	1.57	1.83
-25 (-13)	488	123	143	68	0.32	1.53	7.18	1.81	2.10
-20 (- 4)	623	157	183	76	0.36	1.96	8.21	2.07	2.41
-15 (+ 5)	784	198	230	84	0.39	2.47	9.35	2.36	2.74
-10 (+14)	975	246	286	92	0.42	3.07	10.62	2.68	3.11

TEST CONDITIONS: @220V50Hz		ASHRAE32-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)	251	63	74	53	0.26	0.79	4.77	1.20	1.40
-30 (-22)	344	87	101	62	0.30	1.08	5.56	1.40	1.63
-25 (-13)	456	115	134	71	0.34	1.43	6.40	1.61	1.88
-20 (- 4)	590	149	173	80	0.38	1.85	7.31	1.84	2.14
-15 (+ 5)	750	189	220	90	0.42	2.36	8.30	2.09	2.43
-10 (+14)	941	237	276	100	0.46	2.97	9.39	2.37	2.75

TEST CONDITIONS: @220V50Hz		ASHRAE32-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)	229	58	67	53	0.27	0.72	4.31	1.09	1.26
-30 (-22)	317	80	93	63	0.31	0.99	5.03	1.27	1.47
-25 (-13)	424	107	124	73	0.36	1.33	5.77	1.45	1.69
-20 (- 4)	554	140	162	84	0.40	1.74	6.56	1.65	1.92
-15 (+ 5)	711	179	208	96	0.45	2.24	7.40	1.86	2.17
-10 (+14)	899	227	263	108	0.50	2.84	8.31	2.09	2.43

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32-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)	214	54	63	53	0.27	0.67	3.99	1.01	1.17
-30	(-22)	294	74	86	63	0.31	0.92	4.64	1.17	1.36
-25	(-13)	393	99	115	75	0.36	1.23	5.28	1.33	1.55
-20	(- 4)	516	130	151	87	0.41	1.62	5.95	1.50	1.74
-15	(+ 5)	666	168	195	100	0.47	2.10	6.64	1.67	1.94
-10	(+14)	848	214	248	115	0.53	2.68	7.37	1.86	2.16

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
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	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		