

COMPRESSOR DEFINITION

Designation	EM 2C20CLT
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513304544

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	1/12	[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	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO5	
4 Weight (with oil charge)	7.93	[kg] (17.48 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	MI.E-START 2021	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	2.5(350)/2(350)	[µF(VAC minimum)]
5 Motor protection	AE23AHNX	
6 Start winding resistance	37.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	45.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[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 - UKCA - 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]
156	39	46	35	0.16	0.59	4.52	1.14	1.32

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)	120	30	35	24	0.11	0.38	4.96	1.25	1.45	
-30 (-22)	165	42	48	28	0.13	0.53	5.90	1.49	1.73	
-25 (-13)	219	55	64	32	0.15	0.70	6.88	1.73	2.02	
-20 (- 4)	284	72	83	36	0.17	0.91	7.92	2.00	2.32	
-15 (+ 5)	361	91	106	40	0.19	1.16	9.00	2.27	2.64	
-10 (+14)	452	114	132	44	0.21	1.46	10.13	2.55	2.97	

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)	97	24	28	24	0.12	0.34	3.98	1.00	1.17	
-30 (-22)	138	35	40	29	0.14	0.48	4.80	1.21	1.41	
-25 (-13)	187	47	55	33	0.16	0.65	5.64	1.42	1.65	
-20 (- 4)	246	62	72	38	0.18	0.86	6.50	1.64	1.90	
-15 (+ 5)	315	79	92	43	0.20	1.10	7.37	1.86	2.16	
-10 (+14)	397	100	116	48	0.23	1.39	8.27	2.08	2.42	

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)	75	19	22	24	0.12	0.29	3.09	0.78	0.91	
-30 (-22)	113	28	33	29	0.15	0.43	3.82	0.96	1.12	
-25 (-13)	157	40	46	34	0.17	0.60	4.54	1.15	1.33	
-20 (- 4)	210	53	61	40	0.19	0.80	5.26	1.33	1.54	
-15 (+ 5)	272	68	80	45	0.22	1.04	5.97	1.50	1.75	
-10 (+14)	345	87	101	52	0.25	1.33	6.67	1.68	1.95	

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)	55	14	16	24	0.12	0.23	2.28	0.57	0.67
-30	(-22)	89	22	26	30	0.15	0.37	2.95	0.74	0.86
-25	(-13)	128	32	38	36	0.17	0.54	3.59	0.91	1.05
-20	(- 4)	175	44	51	42	0.20	0.74	4.20	1.06	1.23
-15	(+ 5)	230	58	67	48	0.23	0.98	4.77	1.20	1.40
-10	(+14)	295	74	86	56	0.26	1.26	5.31	1.34	1.55

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
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 parallel BP+24°to Back		
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	Slanted parallel BP+45°to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		