

COMPRESSOR DEFINITION

Designation	EM C20CLT
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	701IA77

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	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	187 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	ALQUILB / ISO5	
4 Weight (with oil charge)	7.6	[kg] (16.75 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	27.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	64.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	2.32	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.29	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.35	[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]
215	54	63	36	0.18	0.68	5.97	1.50	1.75

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)	134	34	39	26	0.12	0.42	5.17	1.30	1.51
-30 (-22)	182	46	53	29	0.14	0.57	6.15	1.55	1.80
-25 (-13)	235	59	69	33	0.16	0.74	7.06	1.78	2.07
-20 (- 4)	297	75	87	37	0.18	0.93	8.01	2.02	2.35
-15 (+ 5)	371	93	109	41	0.19	1.17	9.09	2.29	2.66
-10 (+14)	460	116	135	44	0.21	1.45	10.40	2.62	3.05

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)	111	28	32	26	0.12	0.35	4.37	1.10	1.28
-30 (-22)	160	40	47	30	0.14	0.50	5.41	1.36	1.58
-25 (-13)	214	54	63	34	0.16	0.67	6.31	1.59	1.85
-20 (- 4)	277	70	81	39	0.19	0.87	7.17	1.81	2.10
-15 (+ 5)	352	89	103	43	0.21	1.11	8.08	2.04	2.37
-10 (+14)	442	111	130	48	0.23	1.40	9.16	2.31	2.68

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)	92	23	27	25	0.11	0.29	3.67	0.92	1.07
-30 (-22)	141	35	41	29	0.14	0.44	4.77	1.20	1.40
-25 (-13)	195	49	57	34	0.17	0.61	5.66	1.43	1.66
-20 (- 4)	258	65	76	40	0.19	0.81	6.44	1.62	1.89
-15 (+ 5)	333	84	98	46	0.22	1.05	7.20	1.82	2.11
-10 (+14)	423	107	124	52	0.25	1.34	8.05	2.03	2.36

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)	68	17	20	23	0.10	0.21	2.95	0.74	0.86
-30	(-22)	115	29	34	28	0.13	0.36	4.12	1.04	1.21
-25	(-13)	167	42	49	34	0.16	0.53	5.01	1.26	1.47
-20	(- 4)	229	58	67	40	0.20	0.72	5.71	1.44	1.67
-15	(+ 5)	302	76	89	48	0.23	0.95	6.33	1.60	1.86
-10	(+14)	391	99	115	56	0.26	1.23	6.96	1.75	2.04

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
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 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 0° up + 45° to Back		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		