

COMPRESSOR DEFINITION

Designation	EM Y20CLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306527

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	RSIR		
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		[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	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.7	[kg] (16.98 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	PTC	
2.1 Starting device	2019X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	AE23AHNX	
6 Start winding resistance	27.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	40.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	2.35	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.30	[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			CECOMAF 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]
157	40	46	42	0.29	0.60	3.76	0.95	1.10

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	105	27	31	33	0.27	0.37	3.19	0.80	0.93
-30 (-22)	140	35	41	37	0.28	0.49	3.80	0.96	1.11
-25 (-13)	190	48	56	41	0.29	0.66	4.57	1.15	1.34
-20 (- 4)	254	64	74	46	0.31	0.89	5.48	1.38	1.61
-15 (+ 5)	330	83	97	51	0.33	1.15	6.49	1.63	1.90
-10 (+14)	417	105	122	55	0.35	1.46	7.56	1.91	2.22

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	86	22	25	32	0.27	0.33	2.71	0.68	0.79
-30 (-22)	115	29	34	37	0.28	0.44	3.16	0.80	0.93
-25 (-13)	158	40	46	42	0.29	0.60	3.75	0.95	1.10
-20 (- 4)	214	54	63	48	0.31	0.82	4.44	1.12	1.30
-15 (+ 5)	281	71	82	54	0.34	1.08	5.19	1.31	1.52
-10 (+14)	359	90	105	60	0.36	1.38	5.98	1.51	1.75

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	67	17	20	31	0.27	0.28	2.12	0.53	0.62
-30 (-22)	89	23	26	36	0.28	0.38	2.51	0.63	0.74
-25 (-13)	126	32	37	42	0.30	0.53	3.01	0.76	0.88
-20 (- 4)	175	44	51	49	0.32	0.74	3.56	0.90	1.04
-15 (+ 5)	235	59	69	57	0.35	1.00	4.14	1.04	1.21
-10 (+14)	305	77	89	65	0.38	1.30	4.72	1.19	1.38

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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 42° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 90° up + 24° 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		