

COMPRESSOR DEFINITION

Designation	EM X20CLT
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513309547

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	115-127 / 60	[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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	-	-	-
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	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.88	[kg] (17.37 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-115V/TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(160)	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-53	
6 Start winding resistance	14.13	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.65	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	4.72	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.50	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	0.50	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 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]
272	69	80	49	0.46	0.85	5.57	1.40	1.63

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 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)	172	43	50		0.00	0.54	0.00	0.00	0.00
-30 (-22)	219	55	64		0.00	0.69	0.00	0.00	0.00
-25 (-13)	286	72	84		0.00	0.90	0.00	0.00	0.00
-20 (- 4)	371	93	109		0.00	1.17	0.00	0.00	0.00
-15 (+ 5)	474	120	139		0.00	1.49	0.00	0.00	0.00
-10 (+14)	594	150	174		0.00	1.87	0.00	0.00	0.00

TEST CONDITIONS: @115V60Hz			ASHRAE32 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)	162	41	47		0.00	0.51	0.00	0.00	0.00
-30 (-22)	205	52	60		0.00	0.64	0.00	0.00	0.00
-25 (-13)	268	68	79		0.00	0.84	0.00	0.00	0.00
-20 (- 4)	350	88	103		0.00	1.10	0.00	0.00	0.00
-15 (+ 5)	450	113	132		0.00	1.42	0.00	0.00	0.00
-10 (+14)	566	143	166		0.00	1.79	0.00	0.00	0.00

TEST CONDITIONS: @115V60Hz			ASHRAE32 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)	146	37	43		0.00	0.46	0.00	0.00	0.00
-30 (-22)	186	47	55		0.00	0.58	0.00	0.00	0.00
-25 (-13)	246	62	72		0.00	0.77	0.00	0.00	0.00
-20 (- 4)	325	82	95		0.00	1.02	0.00	0.00	0.00
-15 (+ 5)	422	106	124		0.00	1.33	0.00	0.00	0.00
-10 (+14)	535	135	157		0.00	1.69	0.00	0.00	0.00

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 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)	125	32	37		0.00	0.39	0.00	0.00	0.00
-30	(-22)	163	41	48		0.00	0.51	0.00	0.00	0.00
-25	(-13)	220	55	64		0.00	0.69	0.00	0.00	0.00
-20	(- 4)	297	75	87		0.00	0.93	0.00	0.00	0.00
-15	(+ 5)	391	98	114		0.00	1.23	0.00	0.00	0.00
-10	(+14)	501	126	147		0.00	1.58	0.00	0.00	0.00

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 30° up + 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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		