

COMPRESSOR DEFINITION

Designation	EM U40CLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513306136

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)	Static	-	103 to 140 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	1/8	[hp]
2 Displacement	5.96	[cm ³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
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)	8.6	[kg] (18.96 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14C3/QPS2-A4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	15(200)	[µF(VAC minimum)]
5 Motor protection	4TM283RFBYY-53	
6 Start winding resistance	6.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.24	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	7.33	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.47	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.53	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
397	100	116	87	0.77	1.25	4.54	1.14	1.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	241	61	71	60	0.56	0.75	4.03	1.02	1.18
-30	(-22)	319	80	93	68	0.63	1.00	4.71	1.19	1.38
-25	(-13)	408	103	120	74	0.69	1.28	5.52	1.39	1.62
-20	(- 4)	518	131	152	80	0.74	1.63	6.46	1.63	1.89
-15	(+ 5)	656	165	192	86	0.79	2.06	7.54	1.90	2.21
-10	(+14)	830	209	243	94	0.84	2.62	8.79	2.22	2.58

TEST CONDITIONS: @127V60Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	225	57	66	61	0.58	0.71	3.65	0.92	1.07
-30	(-22)	307	77	90	71	0.65	0.96	4.35	1.10	1.27
-25	(-13)	397	100	116	78	0.71	1.25	5.10	1.28	1.49
-20	(- 4)	502	127	147	85	0.77	1.58	5.91	1.49	1.73
-15	(+ 5)	632	159	185	93	0.84	1.99	6.81	1.72	1.99
-10	(+14)	794	200	233	101	0.91	2.50	7.79	1.96	2.28

TEST CONDITIONS: @127V60Hz			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	184	46	54	63	0.62	0.58	2.90	0.73	0.85
-30	(-22)	275	69	80	73	0.69	0.86	3.71	0.93	1.09
-25	(-13)	369	93	108	82	0.75	1.16	4.50	1.13	1.32
-20	(- 4)	474	119	139	90	0.82	1.49	5.28	1.33	1.55
-15	(+ 5)	599	151	176	99	0.89	1.89	6.07	1.53	1.78
-10	(+14)	752	190	220	109	0.98	2.37	6.87	1.73	2.01

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	118	30	35	65	0.68	0.37	1.82	0.46	0.53
-30	(-22)	222	56	65	76	0.74	0.70	2.82	0.71	0.83
-25	(-13)	324	82	95	86	0.80	1.02	3.73	0.94	1.09
-20	(- 4)	434	109	127	95	0.86	1.36	4.57	1.15	1.34
-15	(+ 5)	559	141	164	105	0.94	1.76	5.34	1.35	1.57
-10	(+14)	708	179	208	117	1.04	2.24	6.06	1.53	1.77

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
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	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		