

COMPRESSOR DEFINITION

Designation	EM U60HSC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513308003

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
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 pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	4.99	[cm ³] (0.305 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO7	
4 Weight (with oil charge)	7.76	[kg] (17.11 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL 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	8EA14C3/8EA21C3/8EA3B3/8EA4B3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(160)	[µF(VAC minimum)]
5 Motor protection	4TM319NFBYY-53	
6 Start winding resistance	5.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.25	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	10.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[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]
590	149	173	117	1.13	3.35	5.04	1.27	1.48

E - PERFORMANCE - CURVES

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)	319	81	94	81	0.86	1.81	3.94	0.99	1.15
-30 (-22)	440	111	129	93	0.95	2.49	4.73	1.19	1.39
-25 (-13)	591	149	173	107	1.06	3.36	5.51	1.39	1.61
-20 (- 4)	775	195	227	123	1.18	4.41	6.30	1.59	1.85
-15 (+ 5)	992	250	291	140	1.31	5.66	7.11	1.79	2.08
-10 (+14)	1244	313	364	156	1.46	7.12	7.97	2.01	2.34

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)	268	68	79	79	0.83	1.52	3.42	0.86	1.00
-30 (-22)	383	96	112	94	0.95	2.17	4.10	1.03	1.20
-25 (-13)	527	133	155	111	1.08	2.99	4.77	1.20	1.40
-20 (- 4)	704	177	206	129	1.23	4.00	5.44	1.37	1.60
-15 (+ 5)	912	230	267	149	1.39	5.21	6.14	1.55	1.80
-10 (+14)	1155	291	338	168	1.56	6.62	6.87	1.73	2.01

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)	217	55	64	74	0.81	1.23	2.94	0.74	0.86
-30 (-22)	332	84	97	92	0.94	1.88	3.58	0.90	1.05
-25 (-13)	476	120	139	113	1.10	2.70	4.19	1.06	1.23
-20 (- 4)	650	164	191	135	1.28	3.70	4.81	1.21	1.41
-15 (+ 5)	857	216	251	158	1.47	4.89	5.44	1.37	1.59
-10 (+14)	1096	276	321	180	1.66	6.28	6.10	1.54	1.79

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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 parallel to Base Plate		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted		
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 to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		