

COMPRESSOR DEFINITION

Designation	EM 3U60HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301756

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 temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	5.19	[cm ³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	6.8	[kg] (14.99 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	TSD	
2.1 Starting device	TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	9.73	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.44	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	11.71	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.02	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.68	[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]
648	163	190	115	1.17	3.68	5.64	1.42	1.65

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)	373	94	109	78	1.42	2.11	4.80	1.21	1.41	
-30 (-22)	500	126	146	89	1.34	2.83	5.64	1.42	1.65	
-25 (-13)	654	165	192	100	1.38	3.71	6.56	1.65	1.92	
-20 (- 4)	843	213	247	111	1.50	4.80	7.57	1.91	2.22	
-15 (+ 5)	1075	271	315	123	1.64	6.14	8.65	2.18	2.54	
-10 (+14)	1357	342	398	137	1.75	7.78	9.83	2.48	2.88	

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)	339	85	99	79	1.28	1.92	4.29	1.08	1.26	
-30 (-22)	471	119	138	93	1.20	2.67	5.09	1.28	1.49	
-25 (-13)	626	158	183	106	1.26	3.55	5.94	1.50	1.74	
-20 (- 4)	813	205	238	120	1.40	4.63	6.82	1.72	2.00	
-15 (+ 5)	1038	262	304	134	1.58	5.92	7.74	1.95	2.27	
-10 (+14)	1309	330	383	150	1.75	7.50	8.70	2.19	2.55	

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)	271	68	80	75	1.26	1.54	3.60	0.91	1.05	
-30 (-22)	413	104	121	93	1.17	2.34	4.42	1.11	1.29	
-25 (-13)	574	145	168	110	1.24	3.26	5.23	1.32	1.53	
-20 (- 4)	762	192	223	127	1.40	4.33	6.04	1.52	1.77	
-15 (+ 5)	984	248	288	144	1.61	5.62	6.85	1.73	2.01	
-10 (+14)	1248	315	366	163	1.83	7.15	7.66	1.93	2.24	

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)	172	43	50	65	1.35	0.97	2.70	0.68	0.79
-30	(-22)	327	82	96	88	1.26	1.85	3.59	0.90	1.05
-25	(-13)	497	125	146	110	1.32	2.82	4.43	1.12	1.30
-20	(- 4)	691	174	202	132	1.50	3.93	5.22	1.32	1.53
-15	(+ 5)	915	231	268	154	1.74	5.22	5.97	1.50	1.75
-10	(+14)	1176	296	345	177	1.99	6.74	6.67	1.68	1.96

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		