

COMPRESSOR DEFINITION

Designation	EM 3D60HLT
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301630

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)	7.6	[kg] (16.75 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(200)	[µF(VAC minimum)]
5 Motor protection	4TM427RFBYY-53	
6 Start winding resistance	5.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.52	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	10.15	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.15	[A] - Measured according to UL 984
11 Approval boards certification		

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	103	0.83	3.68	6.28	1.58	1.84

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)	357	90	105	65	0.57	2.02	5.53	1.39	1.62
-30 (-22)	498	125	146	76	0.66	2.82	6.54	1.65	1.92
-25 (-13)	656	165	192	87	0.75	3.72	7.59	1.91	2.23
-20 (- 4)	843	212	247	96	0.84	4.80	8.72	2.20	2.56
-15 (+ 5)	1067	269	313	106	0.93	6.09	9.94	2.50	2.91
-10 (+14)	1341	338	393	118	1.03	7.68	11.26	2.84	3.30

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)	330	83	97	67	0.59	1.87	4.88	1.23	1.43
-30 (-22)	475	120	139	82	0.71	2.69	5.82	1.47	1.71
-25 (-13)	634	160	186	95	0.82	3.60	6.76	1.70	1.98
-20 (- 4)	816	206	239	107	0.92	4.65	7.71	1.94	2.26
-15 (+ 5)	1033	260	303	119	1.03	5.89	8.70	2.19	2.55
-10 (+14)	1293	326	379	132	1.15	7.41	9.75	2.46	2.86

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)	264	67	77	63	0.56	1.49	4.16	1.05	1.22
-30 (-22)	420	106	123	81	0.71	2.38	5.11	1.29	1.50
-25 (-13)	585	147	171	98	0.85	3.32	6.02	1.52	1.76
-20 (- 4)	770	194	226	113	0.98	4.38	6.89	1.74	2.02
-15 (+ 5)	984	248	288	128	1.12	5.62	7.75	1.95	2.27
-10 (+14)	1238	312	363	144	1.26	7.09	8.61	2.17	2.52

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)	159	40	47	51	0.47	0.90	3.19	0.80	0.94
-30	(-22)	332	84	97	75	0.66	1.88	4.26	1.07	1.25
-25	(-13)	510	129	149	96	0.84	2.90	5.22	1.31	1.53
-20	(- 4)	703	177	206	115	1.01	4.00	6.09	1.53	1.78
-15	(+ 5)	921	232	270	134	1.18	5.26	6.90	1.74	2.02
-10	(+14)	1175	296	344	154	1.36	6.73	7.66	1.93	2.24

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	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-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		