

COMPRESSOR DEFINITION

Designation	EM 3Y60HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301610

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)	7.3	[kg] (16.09 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)/15(180)	[µF(VAC minimum)]
5 Motor protection	CP4TMC431K61	
6 Start winding resistance	6.41	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.16	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.97	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.82	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.45	[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	109	1.06	3.68	5.95	1.50	1.74

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	71	0.77	2.11	5.25	1.32	1.54
-30	(-22)	500	126	146	82	0.84	2.83	6.15	1.55	1.80
-25	(-13)	654	165	192	92	0.92	3.71	7.11	1.79	2.08
-20	(- 4)	843	212	247	103	1.01	4.80	8.15	2.05	2.39
-15	(+ 5)	1075	271	315	115	1.11	6.14	9.32	2.35	2.73
-10	(+14)	1357	342	398	127	1.22	7.78	10.62	2.68	3.11

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	73	0.77	1.92	4.64	1.17	1.36
-30	(-22)	471	119	138	86	0.87	2.67	5.47	1.38	1.60
-25	(-13)	626	158	184	100	0.98	3.56	6.32	1.59	1.85
-20	(- 4)	813	205	238	113	1.09	4.63	7.21	1.82	2.11
-15	(+ 5)	1038	262	304	127	1.21	5.92	8.17	2.06	2.39
-10	(+14)	1308	330	383	141	1.33	7.50	9.22	2.32	2.70

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	79	68	0.74	1.53	3.94	0.99	1.15
-30	(-22)	413	104	121	86	0.87	2.34	4.78	1.21	1.40
-25	(-13)	574	145	168	103	1.00	3.26	5.60	1.41	1.64
-20	(- 4)	762	192	223	120	1.15	4.34	6.40	1.61	1.88
-15	(+ 5)	984	248	288	137	1.29	5.62	7.23	1.82	2.12
-10	(+14)	1248	315	366	154	1.44	7.15	8.09	2.04	2.37

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)	169	43	50	57	0.66	0.96	3.02	0.76	0.89
-30	(-22)	325	82	95	80	0.83	1.85	3.95	1.00	1.16
-25	(-13)	497	125	146	102	1.00	2.82	4.80	1.21	1.41
-20	(- 4)	691	174	202	123	1.17	3.93	5.60	1.41	1.64
-15	(+ 5)	915	231	268	145	1.35	5.22	6.36	1.60	1.86
-10	(+14)	1176	296	345	166	1.54	6.74	7.12	1.79	2.09

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
2 Tray holder	Yes
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