

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	PTC	
2.1 Starting device	37X4R7X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[µF(VAC minimum)]
5 Motor protection	SMP427KFX	
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)	1.76	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.47	[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	112	1.05	3.68	5.79	1.46	1.70

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	73	0.76	2.11	5.15	1.30	1.51
-30	(-22)	500	126	146	83	0.84	2.83	6.04	1.52	1.77
-25	(-13)	654	165	192	94	0.92	3.71	6.99	1.76	2.05
-20	(- 4)	843	212	247	105	1.01	4.80	8.04	2.03	2.36
-15	(+ 5)	1075	271	315	116	1.11	6.14	9.20	2.32	2.70
-10	(+14)	1357	342	398	129	1.22	7.78	10.50	2.65	3.08

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	74	0.77	1.92	4.55	1.15	1.33
-30	(-22)	471	119	138	88	0.87	2.67	5.38	1.36	1.58
-25	(-13)	626	158	184	101	0.98	3.56	6.23	1.57	1.83
-20	(- 4)	813	205	238	115	1.09	4.63	7.12	1.79	2.09
-15	(+ 5)	1038	262	304	128	1.21	5.92	8.08	2.04	2.37
-10	(+14)	1308	330	383	143	1.34	7.50	9.12	2.30	2.67

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	70	0.74	1.53	3.85	0.97	1.13
-30	(-22)	413	104	121	87	0.87	2.34	4.70	1.18	1.38
-25	(-13)	574	145	168	104	1.01	3.26	5.52	1.39	1.62
-20	(- 4)	762	192	223	121	1.15	4.34	6.32	1.59	1.85
-15	(+ 5)	984	248	288	138	1.29	5.62	7.15	1.80	2.10
-10	(+14)	1248	315	366	156	1.44	7.15	8.02	2.02	2.35

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	58	0.66	0.96	2.94	0.74	0.86
-30	(-22)	325	82	95	81	0.83	1.85	3.88	0.98	1.14
-25	(-13)	497	125	146	103	1.00	2.82	4.73	1.19	1.39
-20	(- 4)	691	174	202	125	1.18	3.93	5.53	1.39	1.62
-15	(+ 5)	915	231	268	146	1.36	5.22	6.29	1.59	1.84
-10	(+14)	1176	296	345	168	1.54	6.74	7.05	1.78	2.07

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