COMPRESSOR DEFINITION

Designation	**EM 3Y50HLP**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513301680**

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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	-	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	4.50	[cm³] (0.275 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.000	
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/cm²] (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	8EA14B3/8EA14C3/QPS2-A4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	10.17	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	6.38	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	9.22	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.09	[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]
560	141	164	97	0.85	3.18	5.76	1.45	1.69

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@115V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **35ºC (+95ºF))**

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)**	393	99	115	71	0.52	2.22	5.50	1.39	1.61
-30	**(-22)**	455	115	133	76	0.58	2.58	6.04	1.52	1.77
-25	**(-13)**	568	143	166	84	0.66	3.23	6.82	1.72	2.00
-20	**(- 4)**	735	185	215	94	0.75	4.18	7.87	1.98	2.31
-15	**(+ 5)**	957	241	280	104	0.83	5.46	9.23	2.32	2.70
-10	**(+14)**	1235	311	362	114	0.90	7.08	10.91	2.75	3.20

TEST CONDITIONS: **@115V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **45ºC (+113ºF))**

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)**	362	91	106	77	0.56	2.05	4.72	1.19	1.38
-30	**(-22)**	431	109	126	81	0.62	2.44	5.34	1.35	1.57
-25	**(-13)**	544	137	159	89	0.70	3.09	6.07	1.53	1.78
-20	**(- 4)**	701	177	206	100	0.80	3.99	6.94	1.75	2.03
-15	**(+ 5)**	905	228	265	113	0.90	5.17	7.97	2.01	2.33
-10	**(+14)**	1157	292	339	126	1.00	6.63	9.19	2.32	2.69

TEST CONDITIONS: **@115V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **55ºC (+131ºF))**

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)**	301	76	88	82	0.59	1.70	3.73	0.94	1.09
-30	**(-22)**	383	97	112	85	0.65	2.17	4.54	1.15	1.33
-25	**(-13)**	499	126	146	93	0.73	2.83	5.33	1.34	1.56
-20	**(- 4)**	651	164	191	106	0.84	3.71	6.11	1.54	1.79
-15	**(+ 5)**	841	212	246	121	0.96	4.80	6.92	1.74	2.03
-10	**(+14)**	1070	270	314	138	1.08	6.13	7.78	1.96	2.28

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@115V60Hz **Static**

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)**	212	53	62	85	0.62	1.20	2.45	0.62	0.72
-30	**(-22)**	310	78	91	88	0.68	1.76	3.56	0.90	1.04
-25	**(-13)**	434	109	127	97	0.77	2.46	4.50	1.13	1.32
-20	**(- 4)**	585	147	171	111	0.89	3.33	5.30	1.33	1.55
-15	**(+ 5)**	765	193	224	129	1.02	4.37	5.98	1.51	1.75
-10	**(+14)**	976	246	286	149	1.17	5.59	6.59	1.66	1.93

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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 42º 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		