

COMPRESSOR DEFINITION

Designation	EM Y45HLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513305624

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[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	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 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	1/6	[hp]
2 Displacement	3.68	[cm ³] (0.225 cu.in)
2.1 Bore [mm]	19.000	
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)	7.13	[kg] (15.72 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA17E61/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM189NFBYY-53	
6 Start winding resistance	26.26	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	42.93	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	3.10/3.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.43/0.56	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.50/0.63	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
371	93	109	76	0.35	2.11	4.89	1.23	1.43

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	225	57	66	53	0.25	1.27	4.26	1.07	1.25
-30	(-22)	297	75	87	60	0.28	1.68	4.98	1.25	1.46
-25	(-13)	394	99	115	67	0.31	2.23	5.87	1.48	1.72
-20	(- 4)	514	129	150	74	0.35	2.92	6.92	1.74	2.03
-15	(+ 5)	657	165	192	81	0.38	3.75	8.09	2.04	2.37
-10	(+14)	822	207	241	88	0.41	4.71	9.38	2.36	2.75

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	198	50	58	55	0.26	1.12	3.62	0.91	1.06
-30	(-22)	270	68	79	62	0.29	1.53	4.33	1.09	1.27
-25	(-13)	365	92	107	70	0.33	2.07	5.17	1.30	1.51
-20	(- 4)	484	122	142	79	0.37	2.75	6.10	1.54	1.79
-15	(+ 5)	625	157	183	88	0.41	3.57	7.11	1.79	2.08
-10	(+14)	788	199	231	97	0.45	4.51	8.17	2.06	2.39

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	168	42	49	56	0.27	0.95	3.00	0.76	0.88
-30	(-22)	239	60	70	64	0.30	1.35	3.76	0.95	1.10
-25	(-13)	332	84	97	73	0.34	1.89	4.57	1.15	1.34
-20	(- 4)	449	113	131	82	0.38	2.55	5.43	1.37	1.59
-15	(+ 5)	587	148	172	93	0.43	3.35	6.31	1.59	1.85
-10	(+14)	748	188	219	104	0.48	4.28	7.18	1.81	2.11

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	135	34	39	57	0.28	0.76	2.35	0.59	0.69
-30	(-22)	203	51	60	64	0.31	1.15	3.18	0.80	0.93
-25	(-13)	295	74	86	74	0.35	1.67	4.02	1.01	1.18
-20	(- 4)	409	103	120	84	0.40	2.33	4.85	1.22	1.42
-15	(+ 5)	545	137	160	97	0.45	3.11	5.64	1.42	1.65
-10	(+14)	701	177	206	110	0.51	4.02	6.37	1.61	1.87

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
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 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 0° 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		