

COMPRESSOR DEFINITION

Designation	EM Y45HSC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513308538

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 pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/8	[hp]
2 Displacement	3.77	[cm ³] (0.230 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	13.300	
3 Lubricant charge	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7	[kg] (15.43 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD-220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	3(310)	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-53	
6 Start winding resistance	39.55	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	35.07	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	2.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.88	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	OFT - 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 +/- 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]
372	94	109	70	0.33	2.11	5.28	1.33	1.55

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	232	58	68	47	0.21	1.31	4.91	1.24	1.44	
-30 (-22)	297	75	87	54	0.24	1.68	5.58	1.41	1.64	
-25 (-13)	399	101	117	61	0.27	2.26	6.60	1.66	1.93	
-20 (- 4)	532	134	156	68	0.30	3.03	7.84	1.98	2.30	
-15 (+ 5)	688	173	202	75	0.33	3.93	9.20	2.32	2.70	
-10 (+14)	862	217	253	82	0.36	4.94	10.57	2.66	3.10	

TEST CONDITIONS: @220V50Hz		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)	199	50	58	48	0.22	1.13	4.16	1.05	1.22	
-30 (-22)	259	65	76	57	0.26	1.47	4.68	1.18	1.37	
-25 (-13)	355	89	104	65	0.30	2.02	5.48	1.38	1.61	
-20 (- 4)	479	121	140	74	0.34	2.73	6.46	1.63	1.89	
-15 (+ 5)	625	157	183	83	0.38	3.57	7.50	1.89	2.20	
-10 (+14)	785	198	230	92	0.42	4.49	8.49	2.14	2.49	

TEST CONDITIONS: @220V50Hz		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)	181	46	53	48	0.22	1.03	3.79	0.95	1.11	
-30 (-22)	241	61	71	57	0.26	1.36	4.26	1.07	1.25	
-25 (-13)	333	84	98	67	0.31	1.89	4.96	1.25	1.45	
-20 (- 4)	452	114	132	78	0.36	2.57	5.79	1.46	1.70	
-15 (+ 5)	590	149	173	89	0.41	3.37	6.62	1.67	1.94	
-10 (+14)	740	186	217	101	0.46	4.24	7.34	1.85	2.15	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	141	36	41	47	0.21	0.80	3.03	0.76	0.89
-30	(-22)	203	51	60	57	0.26	1.15	3.58	0.90	1.05
-25	(-13)	296	75	87	68	0.32	1.68	4.29	1.08	1.26
-20	(- 4)	413	104	121	81	0.37	2.35	5.08	1.28	1.49
-15	(+ 5)	547	138	160	94	0.43	3.12	5.81	1.46	1.70
-10	(+14)	691	174	202	109	0.50	3.96	6.39	1.61	1.87

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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	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		