

COMPRESSOR DEFINITION

Designation	EM Y45HSC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513308554

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	1/8	[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	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	6.98	[kg] (15.39 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	SD-F&P	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	3(330)	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-53	
6 Start winding resistance	22.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	30.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	3.22	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.47	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.59	[A] - Measured according to UL 984
11 Approval boards certification		

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]
349	88	102	69	0.35	1.98	5.04	1.27	1.48

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)	207	52	61	38	0.22	1.17	5.38	1.35	1.58
-30 (-22)	284	72	83	50	0.27	1.61	5.79	1.46	1.70
-25 (-13)	382	96	112	60	0.31	2.17	6.47	1.63	1.90
-20 (- 4)	504	127	148	69	0.35	2.87	7.39	1.86	2.16
-15 (+ 5)	651	164	191	77	0.38	3.72	8.50	2.14	2.49
-10 (+14)	825	208	242	84	0.42	4.72	9.77	2.46	2.86

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)	177	45	52	43	0.23	1.00	4.17	1.05	1.22
-30 (-22)	255	64	75	54	0.28	1.44	4.74	1.19	1.39
-25 (-13)	352	89	103	64	0.32	2.00	5.47	1.38	1.60
-20 (- 4)	471	119	138	74	0.36	2.68	6.34	1.60	1.86
-15 (+ 5)	613	154	180	83	0.41	3.50	7.31	1.84	2.14
-10 (+14)	780	197	229	93	0.45	4.47	8.34	2.10	2.45

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)	142	36	42	45	0.24	0.80	3.19	0.80	0.93
-30 (-22)	219	55	64	55	0.28	1.24	3.93	0.99	1.15
-25 (-13)	314	79	92	66	0.33	1.78	4.73	1.19	1.39
-20 (- 4)	428	108	126	76	0.38	2.44	5.57	1.40	1.63
-15 (+ 5)	564	142	165	88	0.43	3.22	6.42	1.62	1.88
-10 (+14)	724	182	212	100	0.49	4.15	7.23	1.82	2.12

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)	99	25	29	45	0.24	0.56	2.19	0.55	0.64
-30	(-22)	175	44	51	55	0.28	0.99	3.11	0.78	0.91
-25	(-13)	266	67	78	66	0.33	1.51	4.01	1.01	1.17
-20	(- 4)	375	95	110	78	0.38	2.13	4.84	1.22	1.42
-15	(+ 5)	504	127	148	91	0.44	2.88	5.58	1.41	1.64
-10	(+14)	654	165	192	106	0.51	3.75	6.20	1.56	1.82

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	Slanted parallel B.Plane 15°		
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	Slanted parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		