

COMPRESSOR DEFINITION

Designation	EM I45HEP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513307196

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	160 to 260 V	-
8.2 LBP (43°C Ambient temperature)	Static	160 to 260 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	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.7	[kg] (16.98 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	PTC	
2.1 Starting device	8EA17C3/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	28.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	27.15	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	4.62	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.81	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.95	[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]
357	90	105	88	0.45	2.03	4.04	1.02	1.18

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)	214	54	63	67	0.37	1.21	3.18	0.80	0.93
-30	(-22)	299	75	87	74	0.39	1.69	4.00	1.01	1.17
-25	(-13)	395	100	116	81	0.42	2.24	4.87	1.23	1.43
-20	(- 4)	508	128	149	88	0.45	2.89	5.82	1.47	1.70
-15	(+ 5)	642	162	188	94	0.47	3.66	6.85	1.73	2.01
-10	(+14)	801	202	235	100	0.50	4.59	8.01	2.02	2.35

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)	191	48	56	68	0.37	1.08	2.83	0.71	0.83
-30	(-22)	270	68	79	76	0.40	1.53	3.55	0.89	1.04
-25	(-13)	362	91	106	84	0.43	2.06	4.30	1.08	1.26
-20	(- 4)	472	119	138	92	0.46	2.69	5.11	1.29	1.50
-15	(+ 5)	604	152	177	101	0.50	3.45	5.99	1.51	1.76
-10	(+14)	762	192	223	109	0.53	4.37	6.98	1.76	2.05

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)	161	41	47	67	0.38	0.91	2.42	0.61	0.71
-30	(-22)	234	59	69	76	0.41	1.33	3.08	0.78	0.90
-25	(-13)	322	81	94	86	0.44	1.83	3.75	0.95	1.10
-20	(- 4)	428	108	125	96	0.48	2.43	4.47	1.13	1.31
-15	(+ 5)	557	140	163	106	0.52	3.18	5.25	1.32	1.54
-10	(+14)	714	180	209	117	0.56	4.09	6.11	1.54	1.79

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)	124	31	36	65	0.39	0.70	1.90	0.48	0.56
-30	(-22)	191	48	56	75	0.41	1.08	2.54	0.64	0.74
-25	(-13)	273	69	80	86	0.44	1.55	3.19	0.80	0.93
-20	(- 4)	375	94	110	97	0.48	2.13	3.86	0.97	1.13
-15	(+ 5)	501	126	147	109	0.53	2.86	4.57	1.15	1.34
-10	(+14)	656	165	192	122	0.58	3.76	5.36	1.35	1.57

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.Plate 30°		
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		