

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	RSIR		
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	8EA17C1/QPS2-A22MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[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)	1.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.10	[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	93	0.95	2.03	3.83	0.97	1.12

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	69	0.70	1.21	3.11	0.78	0.91
-30	(-22)	299	75	87	77	0.73	1.69	3.85	0.97	1.13
-25	(-13)	395	100	116	85	0.74	2.24	4.64	1.17	1.36
-20	(- 4)	508	128	149	93	0.76	2.89	5.50	1.39	1.61
-15	(+ 5)	642	162	188	100	0.77	3.66	6.46	1.63	1.89
-10	(+14)	801	202	235	107	0.78	4.59	7.52	1.89	2.20

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	69	0.71	1.08	2.75	0.69	0.81
-30	(-22)	270	68	79	79	0.73	1.53	3.40	0.86	1.00
-25	(-13)	362	91	106	88	0.75	2.06	4.09	1.03	1.20
-20	(- 4)	472	119	138	98	0.76	2.69	4.82	1.21	1.41
-15	(+ 5)	604	152	177	107	0.78	3.45	5.62	1.42	1.65
-10	(+14)	762	192	223	117	0.80	4.37	6.50	1.64	1.90

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	69	0.71	0.91	2.35	0.59	0.69
-30	(-22)	234	59	69	79	0.73	1.33	2.96	0.75	0.87
-25	(-13)	322	81	94	90	0.75	1.83	3.57	0.90	1.05
-20	(- 4)	428	108	125	101	0.77	2.43	4.21	1.06	1.23
-15	(+ 5)	557	140	163	113	0.79	3.18	4.90	1.23	1.44
-10	(+14)	714	180	209	126	0.82	4.09	5.64	1.42	1.65

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	67	0.71	0.70	1.84	0.46	0.54
-30	(-22)	191	48	56	78	0.73	1.08	2.45	0.62	0.72
-25	(-13)	273	69	80	90	0.75	1.55	3.04	0.77	0.89
-20	(- 4)	375	94	110	103	0.78	2.13	3.64	0.92	1.07
-15	(+ 5)	501	126	147	118	0.80	2.86	4.25	1.07	1.25
-10	(+14)	656	165	192	133	0.84	3.76	4.91	1.24	1.44

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		