

### COMPRESSOR DEFINITION

Designation	EM US30HEP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305030

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[ 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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 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 <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	3.00	[cm <sup>3</sup> ] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
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)	7.9	[kg] (17.42 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14C3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(140)	[µF(VAC minimum)]
5 Motor protection	4TM283KFBYY-53	
6 Start winding resistance	5.75	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.88	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	5.42	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.96	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.18	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			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]
338	85	99	70	0.57	1.92	4.84	1.22	1.42

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	205	52	60	46	0.42	1.16	4.45	1.12	1.30	
-30 (-22)	267	67	78	53	0.48	1.51	5.08	1.28	1.49	
-25 (-13)	350	88	102	60	0.53	1.98	5.87	1.48	1.72	
-20 (- 4)	455	115	133	67	0.59	2.59	6.80	1.71	1.99	
-15 (+ 5)	584	147	171	74	0.64	3.34	7.89	1.99	2.31	
-10 (+14)	739	186	216	81	0.70	4.23	9.13	2.30	2.68	

TEST CONDITIONS: @127V60Hz		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)	167	42	49	45	0.41	0.94	3.76	0.95	1.10	
-30 (-22)	232	58	68	53	0.47	1.31	4.43	1.12	1.30	
-25 (-13)	317	80	93	61	0.54	1.80	5.18	1.31	1.52	
-20 (- 4)	424	107	124	70	0.61	2.41	6.02	1.52	1.76	
-15 (+ 5)	553	139	162	79	0.69	3.16	6.94	1.75	2.03	
-10 (+14)	706	178	207	89	0.77	4.05	7.95	2.00	2.33	

TEST CONDITIONS: @127V60Hz		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)	137	35	40	43	0.40	0.78	3.14	0.79	0.92	
-30 (-22)	203	51	60	52	0.47	1.15	3.88	0.98	1.14	
-25 (-13)	289	73	85	62	0.55	1.64	4.62	1.16	1.35	
-20 (- 4)	394	99	115	73	0.64	2.24	5.38	1.35	1.58	
-15 (+ 5)	521	131	153	85	0.73	2.97	6.15	1.55	1.80	
-10 (+14)	670	169	196	97	0.84	3.84	6.94	1.75	2.03	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	97	25	29	39	0.37	0.55	2.54	0.64	0.75
-30	(-22)	162	41	47	48	0.44	0.92	3.36	0.85	0.98
-25	(-13)	244	61	71	59	0.53	1.39	4.11	1.04	1.20
-20	(- 4)	346	87	101	72	0.63	1.97	4.81	1.21	1.41
-15	(+ 5)	467	118	137	86	0.75	2.67	5.46	1.38	1.60
-10	(+14)	610	154	179	101	0.88	3.50	6.06	1.53	1.78

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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	Slanted		
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		