

COMPRESSOR DEFINITION

Designation	EM 2U80HLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513305508

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 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	-	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	1/4	[hp]
2 Displacement	6.76	[cm ³] (0.413 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.19	[kg] (18.06 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 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA17E63/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(350)	[µF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	23.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	11.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.50/9.85	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.78/1.54	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.06/1.82	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
790	199	231	139	1.02	4.49	5.70	1.44	1.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	469	118	137	94	0.79	2.65	4.95	1.25	1.45
-30 (-22)	640	161	187	109	0.83	3.63	5.87	1.48	1.72
-25 (-13)	846	213	248	124	0.87	4.81	6.82	1.72	2.00
-20 (- 4)	1097	277	322	140	0.92	6.25	7.84	1.98	2.30
-15 (+ 5)	1401	353	411	157	0.98	8.00	8.94	2.25	2.62
-10 (+14)	1766	445	518	174	1.04	10.12	10.15	2.56	2.97

TEST CONDITIONS: @220V60Hz		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)	425	107	125	96	0.80	2.40	4.44	1.12	1.30
-30 (-22)	594	150	174	112	0.84	3.37	5.28	1.33	1.55
-25 (-13)	798	201	234	130	0.89	4.53	6.12	1.54	1.79
-20 (- 4)	1045	263	306	149	0.95	5.95	7.00	1.76	2.05
-15 (+ 5)	1345	339	394	169	1.02	7.68	7.93	2.00	2.33
-10 (+14)	1705	430	500	190	1.10	9.77	8.95	2.26	2.62

TEST CONDITIONS: @220V60Hz		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)	365	92	107	95	0.80	2.07	3.88	0.98	1.14
-30 (-22)	528	133	155	113	0.84	2.99	4.68	1.18	1.37
-25 (-13)	724	183	212	133	0.90	4.11	5.45	1.37	1.60
-20 (- 4)	964	243	282	155	0.97	5.49	6.23	1.57	1.83
-15 (+ 5)	1255	316	368	178	1.06	7.16	7.04	1.77	2.06
-10 (+14)	1606	405	471	202	1.15	9.20	7.91	1.99	2.32

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	313	79	92	92	0.79	1.77	3.32	0.84	0.97
-30	(-22)	464	117	136	112	0.83	2.63	4.11	1.04	1.21
-25	(-13)	649	164	190	134	0.90	3.69	4.86	1.22	1.42
-20	(- 4)	876	221	257	158	0.98	4.99	5.58	1.41	1.63
-15	(+ 5)	1154	291	338	184	1.08	6.59	6.30	1.59	1.85
-10	(+14)	1491	376	437	212	1.19	8.54	7.05	1.78	2.07

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
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 42° up + 45° to Back		
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 30° up + 24° to Back		
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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		