

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	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	-	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	8EA17C1/8EA17E63/QPS2-A22MG1/QPS2-A22MG1 092	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[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)	10.20/9.50	[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	144	1.02	4.49	5.50	1.39	1.61

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	96	0.87	2.65	4.87	1.23	1.43
-30 (-22)	640	161	187	111	0.91	3.63	5.74	1.45	1.68
-25 (-13)	846	213	248	128	0.96	4.81	6.64	1.67	1.94
-20 (- 4)	1097	277	322	145	1.02	6.25	7.59	1.91	2.22
-15 (+ 5)	1401	353	411	163	1.08	8.00	8.61	2.17	2.52
-10 (+14)	1766	445	518	181	1.14	10.12	9.74	2.45	2.85

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	98	0.88	2.40	4.37	1.10	1.28
-30 (-22)	594	150	174	115	0.92	3.37	5.15	1.30	1.51
-25 (-13)	798	201	234	134	0.98	4.53	5.94	1.50	1.74
-20 (- 4)	1045	263	306	154	1.04	5.95	6.76	1.70	1.98
-15 (+ 5)	1345	339	394	176	1.12	7.68	7.63	1.92	2.24
-10 (+14)	1705	430	500	198	1.20	9.77	8.57	2.16	2.51

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	97	0.88	2.07	3.82	0.96	1.12
-30 (-22)	528	133	155	116	0.93	2.99	4.56	1.15	1.34
-25 (-13)	724	183	212	138	0.99	4.11	5.29	1.33	1.55
-20 (- 4)	964	243	282	161	1.07	5.49	6.01	1.51	1.76
-15 (+ 5)	1255	316	368	185	1.15	7.16	6.75	1.70	1.98
-10 (+14)	1606	405	471	212	1.25	9.20	7.55	1.90	2.21

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	94	0.87	1.77	3.27	0.82	0.96
-30	(-22)	464	117	136	115	0.92	2.63	4.01	1.01	1.18
-25	(-13)	649	164	190	138	0.99	3.69	4.71	1.19	1.38
-20	(- 4)	876	221	257	164	1.07	4.99	5.37	1.35	1.57
-15	(+ 5)	1154	291	338	192	1.17	6.59	6.03	1.52	1.77
-10	(+14)	1491	376	437	222	1.29	8.54	6.72	1.69	1.97

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		