

### COMPRESSOR DEFINITION

Designation	EM 2U60HLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513305544

### 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 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 to 242 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 <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	5.75	[cm <sup>3</sup> ] (0.351 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.600	
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)	7.23	[kg] (15.94 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	220 V 60 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	4TM232RFBYY-53	
6 Start winding resistance	22.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	16.46	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	6.65	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.97	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.19	[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]
637	161	187	124	0.79	3.62	5.12	1.29	1.50

### 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)	362	91	106	73	0.66	2.05	4.95	1.25	1.45
-30 (-22)	498	125	146	90	0.71	2.82	5.59	1.41	1.64
-25 (-13)	670	169	196	106	0.76	3.80	6.36	1.60	1.86
-20 (- 4)	884	223	259	123	0.82	5.03	7.22	1.82	2.11
-15 (+ 5)	1146	289	336	140	0.88	6.54	8.14	2.05	2.38
-10 (+14)	1461	368	428	160	0.95	8.37	9.09	2.29	2.66

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)	300	76	88	81	0.66	1.70	3.72	0.94	1.09
-30 (-22)	418	105	122	98	0.71	2.37	4.27	1.07	1.25
-25 (-13)	566	143	166	116	0.77	3.21	4.90	1.23	1.43
-20 (- 4)	749	189	220	134	0.83	4.26	5.59	1.41	1.64
-15 (+ 5)	973	245	285	154	0.91	5.56	6.30	1.59	1.85
-10 (+14)	1243	313	364	177	1.01	7.12	7.02	1.77	2.06

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)	229	58	67	80	0.65	1.30	2.86	0.72	0.84
-30 (-22)	335	84	98	99	0.70	1.90	3.35	0.84	0.98
-25 (-13)	464	117	136	119	0.77	2.63	3.89	0.98	1.14
-20 (- 4)	621	157	182	140	0.85	3.53	4.45	1.12	1.30
-15 (+ 5)	812	205	238	163	0.95	4.64	5.00	1.26	1.47
-10 (+14)	1043	263	306	189	1.06	5.97	5.52	1.39	1.62

### 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)	152	38	45	71	0.63	0.86	2.16	0.54	0.63
-30	(-22)	251	63	73	93	0.69	1.42	2.63	0.66	0.77
-25	(-13)	365	92	107	115	0.76	2.08	3.12	0.79	0.91
-20	(- 4)	502	126	147	140	0.85	2.86	3.60	0.91	1.05
-15	(+ 5)	665	168	195	167	0.96	3.80	4.03	1.02	1.18
-10	(+14)	861	217	252	198	1.10	4.93	4.40	1.11	1.29

### 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		