

COMPRESSOR DEFINITION

Designation	EM 2U60HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305522

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 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	1/5	[hp]
2 Displacement	5.54	[cm ³] (0.338 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.000	
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)	7.45	[kg] (16.42 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	QPS2-A4R7MD3/QPS2-C4R7MD3J6/QPS2-C4R7MD3J8	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	CP4TMC431K61	
6 Start winding resistance	6.93	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.08	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	13.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.96	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.60	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

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]
631	159	185	119	1.09	3.59	5.30	1.34	1.55

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)	373	94	109	77	0.94	2.11	4.85	1.22	1.42
-30 (-22)	495	125	145	90	0.98	2.80	5.52	1.39	1.62
-25 (-13)	660	166	193	105	1.02	3.75	6.34	1.60	1.86
-20 (- 4)	871	220	255	119	1.07	4.96	7.31	1.84	2.14
-15 (+ 5)	1129	284	331	134	1.12	6.45	8.41	2.12	2.46
-10 (+14)	1435	362	421	149	1.19	8.22	9.62	2.42	2.82

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)	312	79	91	78	0.94	1.77	4.01	1.01	1.18
-30 (-22)	444	112	130	93	0.99	2.52	4.80	1.21	1.41
-25 (-13)	614	155	180	108	1.04	3.48	5.66	1.43	1.66
-20 (- 4)	822	207	241	125	1.09	4.68	6.58	1.66	1.93
-15 (+ 5)	1071	270	314	142	1.16	6.12	7.55	1.90	2.21
-10 (+14)	1362	343	399	159	1.24	7.80	8.54	2.15	2.50

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)	244	61	72	78	0.93	1.38	3.14	0.79	0.92
-30 (-22)	386	97	113	94	0.98	2.19	4.08	1.03	1.19
-25 (-13)	560	141	164	111	1.05	3.18	5.00	1.26	1.47
-20 (- 4)	766	193	224	130	1.12	4.36	5.90	1.49	1.73
-15 (+ 5)	1006	254	295	149	1.20	5.74	6.76	1.70	1.98
-10 (+14)	1282	323	376	170	1.29	7.34	7.56	1.91	2.22

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)	168	42	49	79	0.88	0.95	2.14	0.54	0.63
-30	(-22)	321	81	94	96	0.96	1.82	3.25	0.82	0.95
-25	(-13)	498	126	146	115	1.04	2.83	4.27	1.08	1.25
-20	(- 4)	702	177	206	136	1.12	3.99	5.18	1.30	1.52
-15	(+ 5)	933	235	273	158	1.22	5.32	5.96	1.50	1.75
-10	(+14)	1193	301	350	182	1.33	6.83	6.60	1.66	1.93

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	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		