

### COMPRESSOR DEFINITION

Designation	EM 2U30HLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513305524

### 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	1/10	[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	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.02	[kg] (15.48 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	7M220MC1/8EA17C1/8M220MC1/QPS2-A22MG1/QPS2-A22MG	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB21K61A*	
6 Start winding resistance	22.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	36.70	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	3.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.97	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.10	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV	

### 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]
322	81	94	72	0.48	1.83	4.46	1.12	1.31

### 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)	178	45	52	49	0.37	1.01	3.65	0.92	1.07
-30	(-22)	266	67	78	59	0.40	1.51	4.44	1.12	1.30
-25	(-13)	373	94	109	69	0.43	2.12	5.35	1.35	1.57
-20	(- 4)	490	124	144	78	0.45	2.79	6.29	1.58	1.84
-15	(+ 5)	611	154	179	86	0.48	3.49	7.14	1.80	2.09
-10	(+14)	728	183	213	94	0.50	4.17	7.80	1.97	2.29

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)	160	40	47	50	0.38	0.90	3.21	0.81	0.94
-30	(-22)	229	58	67	60	0.40	1.30	3.85	0.97	1.13
-25	(-13)	326	82	95	70	0.43	1.85	4.65	1.17	1.36
-20	(- 4)	442	111	130	80	0.46	2.52	5.50	1.39	1.61
-15	(+ 5)	571	144	167	91	0.49	3.26	6.30	1.59	1.85
-10	(+14)	706	178	207	102	0.53	4.04	6.95	1.75	2.04

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)	127	32	37	48	0.37	0.72	2.62	0.66	0.77
-30	(-22)	179	45	53	58	0.39	1.02	3.17	0.80	0.93
-25	(-13)	268	68	79	69	0.42	1.52	3.91	0.98	1.15
-20	(- 4)	386	97	113	81	0.46	2.20	4.73	1.19	1.39
-15	(+ 5)	526	132	154	95	0.50	3.00	5.54	1.40	1.62
-10	(+14)	679	171	199	110	0.55	3.89	6.22	1.57	1.82

### 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)	79	20	23	42	0.36	0.45	1.88	0.47	0.55
-30	(-22)	117	29	34	53	0.38	0.66	2.38	0.60	0.70
-25	(-13)	200	50	59	65	0.41	1.13	3.11	0.78	0.91
-20	(- 4)	321	81	94	80	0.45	1.83	3.96	1.00	1.16
-15	(+ 5)	473	119	139	97	0.51	2.70	4.82	1.21	1.41
-10	(+14)	649	163	190	116	0.57	3.72	5.58	1.41	1.64

### 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 parallel to Base Plate		
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 parallel to Base Plate		
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 parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		