

COMPRESSOR DEFINITION

Designation	EM 2U30HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305527

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	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	-	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	1/10	[hp]
2 Displacement	3.00	[cm ³] (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)	7.3	[kg] (16.09 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	7M4R7MC1/8EA14C1/8EA21C1/8M4R7MC1/QPS2-A4R7MG1/C	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CP4TMC283N61	
6 Start winding resistance	6.95	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	6.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.35	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.65	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV	

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]
322	81	94	71	0.83	1.83	4.51	1.14	1.32

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)	204	51	60	52	0.68	1.15	3.93	0.99	1.15	
-30 (-22)	268	67	78	59	0.71	1.52	4.49	1.13	1.32	
-25 (-13)	366	92	107	68	0.75	2.08	5.33	1.34	1.56	
-20 (- 4)	492	124	144	77	0.79	2.80	6.37	1.60	1.87	
-15 (+ 5)	639	161	187	86	0.84	3.65	7.50	1.89	2.20	
-10 (+14)	799	201	234	93	0.88	4.58	8.65	2.18	2.54	

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)	193	49	56	54	0.69	1.09	3.60	0.91	1.05	
-30 (-22)	240	61	70	60	0.71	1.36	4.02	1.01	1.18	
-25 (-13)	326	82	96	69	0.75	1.85	4.70	1.18	1.38	
-20 (- 4)	444	112	130	79	0.80	2.53	5.56	1.40	1.63	
-15 (+ 5)	585	147	171	90	0.86	3.34	6.50	1.64	1.91	
-10 (+14)	744	187	218	101	0.92	4.26	7.44	1.88	2.18	

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)	170	43	50	53	0.69	0.96	3.20	0.81	0.94	
-30 (-22)	204	51	60	59	0.71	1.15	3.53	0.89	1.03	
-25 (-13)	279	70	82	68	0.75	1.58	4.11	1.03	1.20	
-20 (- 4)	389	98	114	80	0.81	2.21	4.84	1.22	1.42	
-15 (+ 5)	527	133	154	93	0.88	3.01	5.64	1.42	1.65	
-10 (+14)	685	173	201	107	0.96	3.93	6.43	1.62	1.88	

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)	136	34	40	51	0.67	0.77	2.64	0.67	0.77
-30	(-22)	157	40	46	56	0.69	0.89	2.93	0.74	0.86
-25	(-13)	223	56	65	66	0.74	1.27	3.45	0.87	1.01
-20	(- 4)	327	83	96	79	0.80	1.86	4.11	1.04	1.20
-15	(+ 5)	463	117	136	95	0.89	2.64	4.83	1.22	1.41
-10	(+14)	623	157	183	113	0.99	3.57	5.51	1.39	1.61

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		