COMPRESSOR DEFINITION

Designation	**EM 2U3115U**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513305554**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	-	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm²] (262 psig)	/ ºC - ºF
9.2 Peak	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	3.97	[cm³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO22	
4 Weight (with oil charge)	7.89	[kg] (17.39 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (2.84 to 4.27 psig)

C - ELECTRICAL 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	8EA14C3/8EA14E62/8EA14E63/QPS2-A4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM319RFBYY-53	
6 Start winding resistance	6.60	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	5.00	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	11.94	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.51	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.75	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@115V60Hz**			**ASHRAELBP32 Static**		Evaporating temperature (Condensing temperature		**-23.3°C (-9.94°F) 54.4°C (129.92°F))**	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
797	201	234	144	1.34	2.37	5.53	1.39	1.62

TEST CONDITIONS: **@115V60Hz**			**ASHRAELBP32 Fan**		Evaporating temperature (Condensing temperature		**-23.3°C (-9.94°F) 54.4°C (129.92°F))**	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
826	208	242	147	1.37	2.46	5.63	1.42	1.65

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@115V60Hz**		**ASHRAE32 Static**				(Condensing temperature **35ºC (+95ºF))**				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	510	129	149	102	1.00	1.51	4.98	1.26	1.46
-30	**(-22)**	652	164	191	113	1.09	1.93	5.75	1.45	1.69
-25	**(-13)**	814	205	239	124	1.18	2.42	6.56	1.65	1.92
-20	**(- 4)**	1003	253	294	135	1.27	2.99	7.45	1.88	2.18
-15	**(+ 5)**	1226	309	359	146	1.36	3.67	8.46	2.13	2.48
-10	**(+14)**	1489	375	436	155	1.44	4.48	9.65	2.43	2.83
-5	**(+23)**	1800	453	527	163	1.51	5.44	11.05	2.78	3.24
0	**(+32)**	2163	545	634	170	1.56	6.58	12.70	3.20	3.72

TEST CONDITIONS: **@115V60Hz**		**ASHRAE32 Static**				(Condensing temperature **45ºC (+113ºF))**				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	484	122	142	108	1.04	1.43	4.52	1.14	1.32
-30	**(-22)**	623	157	182	120	1.13	1.85	5.19	1.31	1.52
-25	**(-13)**	780	197	229	133	1.24	2.32	5.85	1.47	1.72
-20	**(- 4)**	962	242	282	146	1.36	2.87	6.56	1.65	1.92
-15	**(+ 5)**	1176	296	345	160	1.47	3.52	7.34	1.85	2.15
-10	**(+14)**	1428	360	418	173	1.59	4.30	8.26	2.08	2.42
-5	**(+23)**	1725	435	506	185	1.69	5.22	9.35	2.36	2.74
0	**(+32)**	2074	523	608	195	1.78	6.30	10.66	2.69	3.12

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF)**)
@115V60Hz **Static**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	445	112	130	110	1.05	1.32	4.06	1.02	1.19
-30	**(-22)**	581	146	170	124	1.17	1.72	4.68	1.18	1.37
-25	**(-13)**	733	185	215	139	1.30	2.18	5.26	1.33	1.54
-20	**(- 4)**	908	229	266	156	1.44	2.71	5.83	1.47	1.71
-15	**(+ 5)**	1113	280	326	172	1.59	3.33	6.44	1.62	1.89
-10	**(+14)**	1354	341	397	189	1.73	4.07	7.14	1.80	2.09
-5	**(+23)**	1638	413	480	205	1.87	4.95	7.98	2.01	2.34
0	**(+32)**	1972	497	578	220	2.00	5.99	8.98	2.26	2.63

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF)**)
@115V60Hz **Static**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	394	99	115	111	1.06	1.17	3.54	0.89	1.04
-30	**(-22)**	527	133	154	126	1.20	1.56	4.16	1.05	1.22
-25	**(-13)**	674	170	197	144	1.35	2.00	4.70	1.19	1.38
-20	**(- 4)**	842	212	247	163	1.52	2.51	5.20	1.31	1.52
-15	**(+ 5)**	1038	262	304	183	1.70	3.11	5.69	1.43	1.67
-10	**(+14)**	1268	320	372	204	1.88	3.81	6.23	1.57	1.82
-5	**(+23)**	1539	388	451	224	2.06	4.65	6.85	1.73	2.01
0	**(+32)**	1858	468	544	244	2.23	5.65	7.61	1.92	2.23

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		