COMPRESSOR DEFINITION

Designation	**EM 2U3115U**
Nominal Voltage/Frequency	**220-240 V 50-60 Hz**
Engineering Number	**513305622**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50-60	[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	198 to 255 V	198 to 255 V
8.2 LBP (43ºC Ambient temperature)	Static	198 to 255 V	198 to 255 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/8EA17C3/8EA17E63/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	DRB180L61AXF	
6 Start winding resistance	19.81	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	15.47	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	6.87/6.55	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.10/0.98	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.30/1.16	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V50Hz**			**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]
651	164	191	121	0.63	1.94	5.38	1.36	1.58

TEST CONDITIONS: **@220V50Hz**			**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]
672	169	197	121	0.63	2.00	5.54	1.40	1.62

TEST CONDITIONS: **@220V60Hz**			**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]
773	195	227	138	0.63	2.30	5.62	1.42	1.65

TEST CONDITIONS: **@220V60Hz**			**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]
798	201	234	139	0.64	2.37	5.74	1.45	1.68

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz**		**ASHRAE32 Fan**			(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)**	434	109	127	91	0.56	1.28	4.77	1.20	1.40
-30	**(-22)**	563	142	165	100	0.59	1.67	5.62	1.42	1.65
-25	**(-13)**	706	178	207	108	0.62	2.10	6.51	1.64	1.91
-20	**(- 4)**	869	219	255	116	0.65	2.59	7.48	1.89	2.19
-15	**(+ 5)**	1058	267	310	123	0.69	3.17	8.60	2.17	2.52
-10	**(+14)**	1277	322	374	130	0.71	3.84	9.92	2.50	2.91
-5	**(+23)**	1532	386	449	134	0.73	4.63	11.48	2.89	3.36
0	**(+32)**	1829	461	536	137	0.74	5.56	13.33	3.36	3.91

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V50Hz **Fan**

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)**	410	103	120	95	0.57	1.21	4.34	1.09	1.27
-30	**(-22)**	534	135	157	105	0.60	1.58	5.08	1.28	1.49
-25	**(-13)**	673	170	197	115	0.64	2.00	5.83	1.47	1.71
-20	**(- 4)**	832	210	244	125	0.68	2.48	6.62	1.67	1.94
-15	**(+ 5)**	1015	256	297	135	0.72	3.04	7.51	1.89	2.20
-10	**(+14)**	1229	310	360	144	0.76	3.70	8.55	2.15	2.50
-5	**(+23)**	1478	372	433	151	0.80	4.47	9.79	2.47	2.87
0	**(+32)**	1768	446	518	157	0.82	5.37	11.29	2.84	3.31

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V50Hz **Fan**

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)**	373	94	109	97	0.58	1.10	3.88	0.98	1.14
-30	**(-22)**	494	125	145	108	0.62	1.47	4.58	1.16	1.34
-25	**(-13)**	629	159	184	120	0.66	1.87	5.24	1.32	1.54
-20	**(- 4)**	783	197	230	132	0.71	2.34	5.91	1.49	1.73
-15	**(+ 5)**	962	242	282	145	0.76	2.88	6.63	1.67	1.94
-10	**(+14)**	1170	295	343	156	0.81	3.52	7.46	1.88	2.19
-5	**(+23)**	1414	356	414	167	0.86	4.28	8.45	2.13	2.48
0	**(+32)**	1698	428	498	176	0.90	5.16	9.65	2.43	2.83

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Fan**

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)**	324	82	95	97	0.59	0.96	3.30	0.83	0.97
-30	**(-22)**	442	111	129	110	0.63	1.31	4.03	1.01	1.18
-25	**(-13)**	573	144	168	124	0.68	1.70	4.67	1.18	1.37
-20	**(- 4)**	723	182	212	138	0.74	2.16	5.27	1.33	1.54
-15	**(+ 5)**	897	226	263	153	0.80	2.69	5.88	1.48	1.72
-10	**(+14)**	1101	277	323	167	0.86	3.31	6.57	1.66	1.92
-5	**(+23)**	1339	337	392	181	0.92	4.05	7.37	1.86	2.16
0	**(+32)**	1617	408	474	194	0.98	4.91	8.34	2.10	2.44

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	Slanted 42º 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		