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 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)**	423	107	124	90	0.00	1.25	4.71	1.19	1.38
-30	**(-22)**	551	139	161	99	0.00	1.63	5.54	1.40	1.62
-25	**(-13)**	692	174	203	108	0.00	2.06	6.41	1.62	1.88
-20	**(- 4)**	852	215	250	116	0.00	2.54	7.37	1.86	2.16
-15	**(+ 5)**	1036	261	304	123	0.00	3.10	8.45	2.13	2.48
-10	**(+14)**	1250	315	366	129	0.00	3.76	9.72	2.45	2.85
-5	**(+23)**	1498	378	439	134	0.00	4.53	11.21	2.82	3.28
0	**(+32)**	1787	450	524	137	0.00	5.43	12.96	3.27	3.80

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V50Hz **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)**	398	100	117	93	0.00	1.18	4.29	1.08	1.26
-30	**(-22)**	521	131	153	104	0.00	1.55	5.02	1.26	1.47
-25	**(-13)**	658	166	193	114	0.00	1.96	5.74	1.45	1.68
-20	**(- 4)**	812	205	238	124	0.00	2.42	6.51	1.64	1.91
-15	**(+ 5)**	991	250	290	134	0.00	2.97	7.38	1.86	2.16
-10	**(+14)**	1199	302	351	143	0.00	3.61	8.38	2.11	2.46
-5	**(+23)**	1442	363	422	151	0.00	4.36	9.57	2.41	2.81
0	**(+32)**	1724	435	505	157	0.00	5.24	11.00	2.77	3.22

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V50Hz **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)**	363	91	106	95	0.00	1.07	3.83	0.97	1.12
-30	**(-22)**	482	121	141	107	0.00	1.43	4.51	1.14	1.32
-25	**(-13)**	613	155	180	119	0.00	1.82	5.15	1.30	1.51
-20	**(- 4)**	763	192	224	132	0.00	2.28	5.79	1.46	1.70
-15	**(+ 5)**	937	236	275	144	0.00	2.81	6.50	1.64	1.90
-10	**(+14)**	1139	287	334	155	0.00	3.43	7.30	1.84	2.14
-5	**(+23)**	1377	347	403	166	0.00	4.16	8.25	2.08	2.42
0	**(+32)**	1653	417	485	176	0.00	5.03	9.40	2.37	2.75

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **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)**	316	80	93	96	0.00	0.93	3.26	0.82	0.95
-30	**(-22)**	431	108	126	109	0.00	1.28	3.95	0.99	1.16
-25	**(-13)**	558	141	163	123	0.00	1.66	4.56	1.15	1.34
-20	**(- 4)**	703	177	206	138	0.00	2.10	5.14	1.30	1.51
-15	**(+ 5)**	872	220	256	152	0.00	2.61	5.74	1.45	1.68
-10	**(+14)**	1070	270	314	167	0.00	3.22	6.40	1.61	1.88
-5	**(+23)**	1302	328	382	181	0.00	3.94	7.18	1.81	2.10
0	**(+32)**	1574	397	461	194	0.00	4.78	8.10	2.04	2.37

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		