COMPRESSOR DEFINITION

Designation	**EM 2X3125U**
Nominal Voltage/Frequency	**220-240 V 50-60 Hz**
Engineering Number	**513304083**

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 (Commercial Compressors)		
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	1/3+	[hp]
2 Displacement	6.09	[cm³] (0.372 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	17.600	
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)	7.84	[kg] (17.28 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	8EA17C3/8EA17E61/8EA17E62/8EA17E63/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(450)	[µF(VAC minimum)]
5 Motor protection	4TM283RFBYY-53	
6 Start winding resistance	20.80	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	11.70	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	8.20/7.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.80/1.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.00/1.90	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - IRAM - ISI - TUV - UKCA - VDE	

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]
1033	260	303	181	0.91	3.07	5.71	1.44	1.67

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]
1042	263	305	180	0.93	3.10	5.80	1.46	1.70

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]
1257	317	368	220	1.01	3.74	5.71	1.44	1.67

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]
1271	320	372	218		3.78	5.82	1.47	1.71

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)**	688	173	202	128	0.71	2.04	5.37	1.35	1.57
-30	**(-22)**	874	220	256	143	0.77	2.59	6.10	1.54	1.79
-25	**(-13)**	1097	276	321	158	0.82	3.26	6.95	1.75	2.04
-20	**(- 4)**	1360	343	398	172	0.88	4.06	7.93	2.00	2.32
-15	**(+ 5)**	1664	419	488	184	0.94	4.99	9.05	2.28	2.65
-10	**(+14)**	2012	507	589	196	0.99	6.05	10.33	2.60	3.03
-5	**(+23)**	2404	606	704	205	1.03	7.27	11.77	2.97	3.45
0	**(+32)**	2844	717	833	211	1.05	8.65	13.40	3.38	3.93

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)**	654	165	192	136	0.74	1.94	4.83	1.22	1.42
-30	**(-22)**	831	209	244	152	0.80	2.46	5.46	1.38	1.60
-25	**(-13)**	1045	263	306	169	0.87	3.11	6.16	1.55	1.80
-20	**(- 4)**	1298	327	380	186	0.94	3.87	6.95	1.75	2.04
-15	**(+ 5)**	1592	401	466	202	1.01	4.77	7.85	1.98	2.30
-10	**(+14)**	1929	486	565	217	1.08	5.80	8.87	2.24	2.60
-5	**(+23)**	2310	582	677	231	1.14	6.99	10.02	2.52	2.93
0	**(+32)**	2738	690	802	243	1.19	8.32	11.30	2.85	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)**	614	155	180	141	0.76	1.82	4.38	1.10	1.28
-30	**(-22)**	782	197	229	159	0.83	2.32	4.94	1.24	1.45
-25	**(-13)**	986	248	289	178	0.91	2.93	5.54	1.40	1.62
-20	**(- 4)**	1229	310	360	198	0.99	3.67	6.20	1.56	1.82
-15	**(+ 5)**	1513	381	443	217	1.08	4.53	6.93	1.75	2.03
-10	**(+14)**	1839	463	539	237	1.17	5.53	7.73	1.95	2.27
-5	**(+23)**	2209	557	647	255	1.25	6.68	8.63	2.18	2.53
0	**(+32)**	2625	662	769	273	1.33	7.98	9.63	2.43	2.82

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)**	567	143	166	144	0.77	1.68	3.91	0.98	1.14
-30	**(-22)**	726	183	213	164	0.85	2.15	4.46	1.12	1.31
-25	**(-13)**	921	232	270	185	0.94	2.74	5.01	1.26	1.47
-20	**(- 4)**	1155	291	338	208	1.04	3.44	5.59	1.41	1.64
-15	**(+ 5)**	1428	360	418	231	1.14	4.28	6.19	1.56	1.81
-10	**(+14)**	1743	439	511	255	1.25	5.24	6.84	1.72	2.00
-5	**(+23)**	2102	530	616	279	1.35	6.36	7.54	1.90	2.21
0	**(+32)**	2507	632	735	302	1.46	7.62	8.30	2.09	2.43

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V60Hz **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)**	859	216	252	155	0.71	2.54	5.53	1.39	1.62
-30	**(-22)**	1064	268	312	171	0.78	3.16	6.23	1.57	1.83
-25	**(-13)**	1315	331	385	188	0.86	3.91	7.02	1.77	2.06
-20	**(- 4)**	1614	407	473	205	0.94	4.82	7.91	1.99	2.32
-15	**(+ 5)**	1965	495	576	221	1.02	5.89	8.93	2.25	2.62
-10	**(+14)**	2370	597	695	236	1.08	7.13	10.10	2.54	2.96
-5	**(+23)**	2833	714	830	248	1.14	8.57	11.43	2.88	3.35
0	**(+32)**	3355	846	983	258	1.19	10.20	12.97	3.27	3.80

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V60Hz **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)**	790	199	231	160	0.74	2.34	4.96	1.25	1.45
-30	**(-22)**	998	252	292	179	0.83	2.96	5.57	1.40	1.63
-25	**(-13)**	1249	315	366	200	0.92	3.71	6.22	1.57	1.82
-20	**(- 4)**	1545	389	453	221	1.02	4.61	6.94	1.75	2.03
-15	**(+ 5)**	1889	476	554	243	1.12	5.66	7.74	1.95	2.27
-10	**(+14)**	2285	576	669	263	1.22	6.87	8.65	2.18	2.53
-5	**(+23)**	2734	689	801	282	1.30	8.27	9.69	2.44	2.84
0	**(+32)**	3241	817	950	299	1.38	9.85	10.88	2.74	3.19

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V60Hz **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)**	724	182	212	163	0.75	2.14	4.47	1.13	1.31
-30	**(-22)**	934	235	274	186	0.86	2.77	5.03	1.27	1.47
-25	**(-13)**	1183	298	347	211	0.98	3.52	5.60	1.41	1.64
-20	**(- 4)**	1475	372	432	238	1.10	4.40	6.19	1.56	1.81
-15	**(+ 5)**	1811	456	531	265	1.22	5.42	6.82	1.72	2.00
-10	**(+14)**	2196	553	644	291	1.35	6.61	7.51	1.89	2.20
-5	**(+23)**	2632	663	771	317	1.47	7.96	8.29	2.09	2.43
0	**(+32)**	3122	787	915	341	1.58	9.49	9.18	2.31	2.69

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V60Hz **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)**	661	167	194	164	0.75	1.96	3.99	1.01	1.17
-30	**(-22)**	871	220	255	191	0.88	2.58	4.56	1.15	1.34
-25	**(-13)**	1118	282	328	221	1.02	3.32	5.08	1.28	1.49
-20	**(- 4)**	1404	354	411	253	1.17	4.19	5.58	1.41	1.64
-15	**(+ 5)**	1732	436	507	286	1.32	5.19	6.08	1.53	1.78
-10	**(+14)**	2105	530	617	319	1.48	6.33	6.61	1.66	1.94
-5	**(+23)**	2526	636	740	352	1.63	7.64	7.17	1.81	2.10
0	**(+32)**	2997	755	878	383	1.79	9.11	7.81	1.97	2.29

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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	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		