

COMPRESSOR DEFINITION

Designation	EM C3125U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513304159

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50	[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 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	6.09	[cm ³] (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)	8.2	[kg] (18.08 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-220V/TSD2-220V1.2/TSD2-D-220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM276JDBYY	
6 Start winding resistance	13.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.70	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	6.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.90	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.12	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - VDE	

D - PERFORMANCE - CHECK POINT DATA

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]
1028	259	301	160	0.75	3.06	6.41	1.62	1.88

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
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)	685	173	201	109	0.51	2.03	6.26	1.58	1.84
-30	(-22)	856	216	251	123	0.57	2.54	6.95	1.75	2.04
-25	(-13)	1072	270	314	137	0.63	3.19	7.85	1.98	2.30
-20	(- 4)	1335	336	391	149	0.69	3.98	8.95	2.26	2.62
-15	(+ 5)	1644	414	482	161	0.74	4.92	10.23	2.58	3.00
-10	(+14)	1999	504	586	171	0.79	6.02	11.69	2.95	3.43
-5	(+23)	2400	605	703	181	0.83	7.26	13.30	3.35	3.90
0	(+32)	2848	718	835	189	0.88	8.66	15.04	3.79	4.41

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
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)	630	159	185	114	0.53	1.86	5.55	1.40	1.63
-30	(-22)	796	201	233	131	0.61	2.36	6.12	1.54	1.79
-25	(-13)	1006	254	295	147	0.68	2.99	6.86	1.73	2.01
-20	(- 4)	1261	318	370	162	0.75	3.76	7.75	1.95	2.27
-15	(+ 5)	1561	393	457	177	0.82	4.68	8.77	2.21	2.57
-10	(+14)	1905	480	558	192	0.89	5.73	9.90	2.49	2.90
-5	(+23)	2294	578	672	206	0.95	6.94	11.13	2.81	3.26
0	(+32)	2728	687	799	219	1.01	8.29	12.45	3.14	3.65

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
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)	583	147	171	117	0.53	1.72	4.95	1.25	1.45
-30	(-22)	743	187	218	136	0.63	2.20	5.49	1.38	1.61
-25	(-13)	945	238	277	154	0.72	2.81	6.14	1.55	1.80
-20	(- 4)	1191	300	349	173	0.81	3.55	6.89	1.74	2.02
-15	(+ 5)	1480	373	434	192	0.90	4.43	7.71	1.94	2.26
-10	(+14)	1812	457	531	211	0.98	5.45	8.60	2.17	2.52
-5	(+23)	2187	551	641	230	1.06	6.61	9.53	2.40	2.79
0	(+32)	2605	657	763	248	1.15	7.92	10.49	2.64	3.07

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
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 0° up + 45° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		