

COMPRESSOR DEFINITION

Designation	EM C3125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301691

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 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 V
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	5.89	[cm ³] (0.359 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	17.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	6.8	[kg] (14.99 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL 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/QPS2-A4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM445NFBYY-53	
6 Start winding resistance	6.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.74	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	18.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.62	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
1177	297	345	197	1.89	3.50	5.97	1.50	1.75

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	755	190	221	134	1.37	2.23	5.62	1.42	1.65
-30	(-22)	1003	253	294	155	1.53	2.98	6.43	1.62	1.89
-25	(-13)	1284	324	376	174	1.69	3.82	7.33	1.85	2.15
-20	(- 4)	1599	403	469	192	1.84	4.77	8.32	2.10	2.44
-15	(+ 5)	1948	491	571	207	1.97	5.83	9.43	2.38	2.76
-10	(+14)	2331	587	683	220	2.09	7.02	10.68	2.69	3.13
-5	(+23)	2750	693	806	229	2.17	8.32	12.08	3.04	3.54
0	(+32)	3206	808	939	234	2.21	9.75	13.65	3.44	4.00

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	675	170	198	138	1.42	2.00	4.95	1.25	1.45
-30	(-22)	906	228	266	160	1.59	2.69	5.65	1.42	1.66
-25	(-13)	1174	296	344	183	1.77	3.49	6.40	1.61	1.88
-20	(- 4)	1480	373	434	204	1.95	4.41	7.21	1.82	2.11
-15	(+ 5)	1823	459	534	224	2.12	5.46	8.11	2.04	2.38
-10	(+14)	2205	556	646	242	2.28	6.63	9.10	2.29	2.67
-5	(+23)	2626	662	769	258	2.42	7.94	10.21	2.57	2.99
0	(+32)	3087	778	905	270	2.53	9.39	11.46	2.89	3.36

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	610	154	179	140	1.42	1.80	4.38	1.10	1.28
-30	(-22)	824	208	241	165	1.61	2.44	5.02	1.27	1.47
-25	(-13)	1078	272	316	190	1.82	3.20	5.68	1.43	1.66
-20	(- 4)	1373	346	402	215	2.03	4.10	6.36	1.60	1.86
-15	(+ 5)	1710	431	501	240	2.25	5.12	7.08	1.78	2.07
-10	(+14)	2089	526	612	264	2.47	6.28	7.87	1.98	2.31
-5	(+23)	2511	633	736	287	2.67	7.59	8.74	2.20	2.56
0	(+32)	2977	750	872	307	2.85	9.05	9.71	2.45	2.85

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	531	134	155	137	1.40	1.57	3.80	0.96	1.11
-30	(-22)	725	183	213	164	1.61	2.15	4.43	1.12	1.30
-25	(-13)	964	243	283	193	1.86	2.87	5.04	1.27	1.48
-20	(- 4)	1248	315	366	223	2.12	3.72	5.63	1.42	1.65
-15	(+ 5)	1577	397	462	254	2.39	4.72	6.24	1.57	1.83
-10	(+14)	1952	492	572	284	2.66	5.87	6.87	1.73	2.01
-5	(+23)	2375	598	696	314	2.93	7.18	7.55	1.90	2.21
0	(+32)	2844	717	833	343	3.18	8.64	8.30	2.09	2.43

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		