

COMPRESSOR DEFINITION

Designation	EM C3117U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	711VA52

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	1/4	[hp]
2 Displacement	3.97	[cm ³] (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	ESTER / ISO10	
4 Weight (with oil charge)	8.22	[kg] (18.12 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MI2021/V230	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	5(350)	[μF(VAC minimum)]
5 Motor protection	AE13FHY8	
6 Start winding resistance	14.75	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	19.97	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	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 +/- 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]
671	169	197	110	0.52	2.00	6.11	1.54	1.79

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	441	111	129	76	0.35	1.30	5.81	1.46	1.70
-30 (-22)	555	140	163	85	0.40	1.64	6.54	1.65	1.92
-25 (-13)	696	175	204	93	0.44	2.07	7.46	1.88	2.19
-20 (- 4)	865	218	254	101	0.48	2.58	8.55	2.15	2.51
-15 (+ 5)	1062	268	311	109	0.51	3.18	9.78	2.47	2.87
-10 (+14)	1287	324	377	116	0.54	3.87	11.14	2.81	3.27
-5 (+23)	1540	388	451	122	0.56	4.66	12.61	3.18	3.70
0 (+32)	1821	459	534	128	0.58	5.54	14.16	3.57	4.15

TEST CONDITIONS: @220V50Hz			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)	416	105	122	78	0.36	1.23	5.38	1.36	1.58
-30 (-22)	523	132	153	89	0.41	1.55	5.90	1.49	1.73
-25 (-13)	659	166	193	100	0.46	1.96	6.58	1.66	1.93
-20 (- 4)	822	207	241	110	0.51	2.45	7.42	1.87	2.17
-15 (+ 5)	1014	256	297	121	0.55	3.04	8.38	2.11	2.46
-10 (+14)	1235	311	362	130	0.60	3.72	9.45	2.38	2.77
-5 (+23)	1484	374	435	140	0.64	4.49	10.61	2.67	3.11
0 (+32)	1761	444	516	149	0.68	5.35	11.83	2.98	3.47

TEST CONDITIONS: @220V50Hz			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)	396	100	116	78	0.37	1.17	5.09	1.28	1.49
-30 (-22)	494	125	145	91	0.42	1.46	5.45	1.37	1.60
-25 (-13)	621	157	182	105	0.48	1.85	5.96	1.50	1.75
-20 (- 4)	777	196	228	118	0.54	2.32	6.59	1.66	1.93
-15 (+ 5)	962	242	282	131	0.60	2.88	7.34	1.85	2.15
-10 (+14)	1176	296	345	144	0.66	3.54	8.18	2.06	2.40
-5 (+23)	1419	358	416	156	0.72	4.29	9.08	2.29	2.66
0 (+32)	1691	426	496	169	0.78	5.14	10.03	2.53	2.94

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
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	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
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		