

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	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	DRB230K52A*	
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)	4.80	[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			EN12900LBP Fan		Evaporating temperature (Condensing temperature		-35°C (-31°F) 40°C (104°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]
420	106	123	75	0.35	1.41	5.64	1.42	1.65

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			EN12900 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)	392	99	115	74	0.34	1.25	5.32	1.34	1.56
-30	(-22)	507	128	149	84	0.39	1.63	6.06	1.53	1.77
-25	(-13)	646	163	189	93	0.43	2.09	6.98	1.76	2.04
-20	(- 4)	810	204	237	100	0.46	2.63	8.08	2.04	2.37
-15	(+ 5)	1000	252	293	107	0.49	3.26	9.37	2.36	2.75
-10	(+14)	1217	307	356	112	0.52	3.99	10.86	2.74	3.18
-5	(+23)	1461	368	428	117	0.54	4.82	12.56	3.16	3.68
0	(+32)	1735	437	508	120	0.55	5.78	14.46	3.64	4.24

TEST CONDITIONS: @220V50Hz			EN12900 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)	327	82	96	75	0.35	1.15	4.40	1.11	1.29
-30	(-22)	432	109	126	87	0.40	1.52	4.96	1.25	1.45
-25	(-13)	558	141	163	98	0.45	1.97	5.64	1.42	1.65
-20	(- 4)	706	178	207	109	0.50	2.51	6.44	1.62	1.89
-15	(+ 5)	879	222	258	118	0.54	3.14	7.37	1.86	2.16
-10	(+14)	1077	271	316	127	0.58	3.87	8.44	2.13	2.47
-5	(+23)	1301	328	381	135	0.62	4.72	9.65	2.43	2.83
0	(+32)	1551	391	455	142	0.65	5.68	11.01	2.77	3.23

TEST CONDITIONS: @220V50Hz			EN12900 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)	275	69	80	76	0.36	1.07	3.58	0.90	1.05
-30	(-22)	359	90	105	90	0.42	1.41	4.04	1.02	1.18
-25	(-13)	463	117	136	103	0.48	1.82	4.56	1.15	1.34
-20	(- 4)	589	148	172	115	0.53	2.33	5.14	1.29	1.51
-15	(+ 5)	736	185	216	128	0.58	2.93	5.79	1.46	1.70
-10	(+14)	906	228	265	139	0.64	3.63	6.51	1.64	1.91
-5	(+23)	1100	277	322	150	0.69	4.45	7.32	1.84	2.14
0	(+32)	1320	333	387	160	0.74	5.39	8.21	2.07	2.41

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		