

### COMPRESSOR DEFINITION

Designation	EM C3119U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	711KA52

### 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 <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	4.53	[cm <sup>3</sup> ] (0.276 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	16.000	
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 <sup>2</sup> ]

### 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	20.91	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	6.83	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.05	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.30	[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]
444	112	130	86	0.42	1.49	5.15	1.30	1.51

### 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)	473	119	139	86	0.40	1.51	5.46	1.38	1.60
-30	(-22)	600	151	176	98	0.45	1.93	6.15	1.55	1.80
-25	(-13)	759	191	222	107	0.49	2.45	7.06	1.78	2.07
-20	(- 4)	950	239	278	116	0.53	3.08	8.19	2.06	2.40
-15	(+ 5)	1172	295	344	123	0.56	3.82	9.53	2.40	2.79
-10	(+14)	1427	360	418	129	0.59	4.68	11.07	2.79	3.24
-5	(+23)	1713	432	502	134	0.61	5.66	12.81	3.23	3.75
0	(+32)	2031	512	595	137	0.63	6.76	14.73	3.71	4.32

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)	408	103	120	89	0.41	1.44	4.62	1.16	1.35
-30	(-22)	522	132	153	102	0.47	1.84	5.13	1.29	1.50
-25	(-13)	665	168	195	114	0.53	2.35	5.79	1.46	1.70
-20	(- 4)	837	211	245	126	0.58	2.97	6.61	1.67	1.94
-15	(+ 5)	1039	262	304	136	0.63	3.71	7.57	1.91	2.22
-10	(+14)	1269	320	372	146	0.67	4.57	8.67	2.19	2.54
-5	(+23)	1529	385	448	154	0.71	5.54	9.91	2.50	2.90
0	(+32)	1817	458	532	162	0.74	6.65	11.26	2.84	3.30

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)	340	86	100	91	0.43	1.33	3.72	0.94	1.09
-30	(-22)	436	110	128	106	0.50	1.71	4.14	1.04	1.21
-25	(-13)	559	141	164	121	0.57	2.20	4.67	1.18	1.37
-20	(- 4)	708	179	208	135	0.63	2.80	5.28	1.33	1.55
-15	(+ 5)	884	223	259	148	0.69	3.52	5.97	1.51	1.75
-10	(+14)	1086	274	318	161	0.75	4.36	6.74	1.70	1.98
-5	(+23)	1315	331	385	173	0.81	5.32	7.58	1.91	2.22
0	(+32)	1570	396	460	185	0.86	6.41	8.47	2.13	2.48

### 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		