

### COMPRESSOR DEFINITION

Designation	EM C3119U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	711KA77

### 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			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]
807	203	236	127	0.58	2.40	6.35	1.60	1.86

### 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)	509	128	149	86	0.41	1.51	5.92	1.49	1.73
-30 (-22)	647	163	190	97	0.46	1.92	6.68	1.68	1.96
-25 (-13)	816	206	239	107	0.50	2.43	7.63	1.92	2.24
-20 (- 4)	1016	256	298	116	0.54	3.03	8.78	2.21	2.57
-15 (+ 5)	1247	314	365	123	0.57	3.74	10.11	2.55	2.96
-10 (+14)	1510	380	442	130	0.60	4.54	11.62	2.93	3.40
-5 (+23)	1803	454	528	136	0.63	5.45	13.28	3.35	3.89
0 (+32)	2128	536	624	141	0.65	6.47	15.11	3.81	4.43

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)	466	118	137	89	0.42	1.38	5.25	1.32	1.54
-30 (-22)	601	151	176	102	0.48	1.78	5.90	1.49	1.73
-25 (-13)	766	193	225	114	0.53	2.28	6.70	1.69	1.96
-20 (- 4)	963	243	282	126	0.58	2.87	7.64	1.93	2.24
-15 (+ 5)	1191	300	349	136	0.63	3.57	8.72	2.20	2.56
-10 (+14)	1451	366	425	146	0.68	4.37	9.93	2.50	2.91
-5 (+23)	1741	439	510	155	0.72	5.27	11.25	2.84	3.30
0 (+32)	2063	520	604	163	0.76	6.27	12.68	3.20	3.72

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)	429	108	126	91	0.43	1.27	4.71	1.19	1.38
-30 (-22)	558	141	164	106	0.50	1.65	5.29	1.33	1.55
-25 (-13)	718	181	210	121	0.56	2.13	5.98	1.51	1.75
-20 (- 4)	909	229	266	135	0.62	2.71	6.76	1.70	1.98
-15 (+ 5)	1132	285	332	148	0.68	3.39	7.63	1.92	2.24
-10 (+14)	1386	349	406	161	0.74	4.17	8.58	2.16	2.52
-5 (+23)	1670	421	489	174	0.80	5.05	9.61	2.42	2.82
0 (+32)	1986	501	582	186	0.86	6.04	10.69	2.69	3.13

### 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	6.1 +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		