

### COMPRESSOR DEFINITION

Designation	EM C3130U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	711NA37

### 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	1/3	[hp]
2 Displacement	6.92	[cm <sup>3</sup> ] (0.422 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	20.000	
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)	8.2	[kg] (18.08 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	PTC	
2.1 Starting device	V230	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	8(420)/7.5(420)/7(420)	[µF(VAC minimum)]
5 Motor protection	AE15BU	
6 Start winding resistance	13.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.70	[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]
1190	300	349	192	0.88	3.54	6.19	1.56	1.81

### 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)	741	187	217	130	0.62	2.19	5.71	1.44	1.67
-30 (-22)	937	236	274	145	0.69	2.78	6.47	1.63	1.90
-25 (-13)	1186	299	347	160	0.75	3.53	7.44	1.87	2.18
-20 (- 4)	1488	375	436	174	0.81	4.44	8.57	2.16	2.51
-15 (+ 5)	1843	464	540	187	0.87	5.52	9.86	2.49	2.89
-10 (+14)	2251	567	660	200	0.92	6.78	11.29	2.85	3.31
-5 (+23)	2713	684	795	212	0.98	8.21	12.83	3.23	3.76
0 (+32)	3228	813	946	223	1.03	9.81	14.47	3.65	4.24

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)	709	179	208	136	0.65	2.10	5.23	1.32	1.53
-30 (-22)	898	226	263	153	0.73	2.66	5.87	1.48	1.72
-25 (-13)	1138	287	333	171	0.81	3.38	6.65	1.68	1.95
-20 (- 4)	1427	360	418	188	0.88	4.26	7.56	1.90	2.21
-15 (+ 5)	1766	445	518	206	0.96	5.29	8.57	2.16	2.51
-10 (+14)	2156	543	632	223	1.04	6.49	9.66	2.43	2.83
-5 (+23)	2596	654	761	240	1.12	7.85	10.81	2.72	3.17
0 (+32)	3086	778	904	257	1.20	9.38	12.00	3.03	3.52

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)	640	161	187	141	0.67	1.89	4.54	1.14	1.33
-30 (-22)	828	209	243	161	0.76	2.45	5.15	1.30	1.51
-25 (-13)	1063	268	311	182	0.86	3.16	5.86	1.48	1.72
-20 (- 4)	1345	339	394	203	0.95	4.01	6.64	1.67	1.95
-15 (+ 5)	1675	422	491	224	1.05	5.02	7.47	1.88	2.19
-10 (+14)	2051	517	601	247	1.15	6.17	8.33	2.10	2.44
-5 (+23)	2475	624	725	269	1.25	7.48	9.20	2.32	2.70
0 (+32)	2946	742	863	292	1.36	8.95	10.07	2.54	2.95

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
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