

### 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	TSD	
2.1 Starting device	TSD-220V0.6/TSD2-220V/TSD2-D-220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	8(420)/7.5(420)/7(420)	[µF(VAC minimum)]
5 Motor protection	CP4TMC288K61A5	
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)	6.60	[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	190	1.84	3.54	6.27	1.58	1.84	

### 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	127	0.60	2.19	5.82	1.47	1.70	
-30 (-22)	937	236	274	142	0.67	2.78	6.59	1.66	1.93	
-25 (-13)	1186	299	347	157	0.73	3.53	7.55	1.90	2.21	
-20 (- 4)	1488	375	436	171	0.79	4.44	8.70	2.19	2.55	
-15 (+ 5)	1843	464	540	184	0.85	5.52	10.00	2.52	2.93	
-10 (+14)	2251	567	660	197	0.90	6.78	11.43	2.88	3.35	
-5 (+23)	2713	684	795	209	0.96	8.21	12.99	3.27	3.81	
0 (+32)	3228	813	946	220	1.01	9.81	14.63	3.69	4.29	

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	133	0.63	2.10	5.33	1.34	1.56	
-30 (-22)	898	226	263	151	0.71	2.66	5.97	1.50	1.75	
-25 (-13)	1138	287	333	168	0.78	3.38	6.75	1.70	1.98	
-20 (- 4)	1427	360	418	186	0.86	4.26	7.66	1.93	2.24	
-15 (+ 5)	1766	445	518	203	0.94	5.29	8.67	2.19	2.54	
-10 (+14)	2156	543	632	220	1.01	6.49	9.77	2.46	2.86	
-5 (+23)	2596	654	761	238	1.09	7.85	10.92	2.75	3.20	
0 (+32)	3086	778	904	255	1.17	9.38	12.12	3.06	3.55	

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	138	0.65	1.89	4.62	1.16	1.35	
-30 (-22)	828	209	243	158	0.74	2.45	5.23	1.32	1.53	
-25 (-13)	1063	268	311	179	0.84	3.16	5.94	1.50	1.74	
-20 (- 4)	1345	339	394	200	0.93	4.01	6.72	1.69	1.97	
-15 (+ 5)	1675	422	491	222	1.03	5.02	7.55	1.90	2.21	
-10 (+14)	2051	517	601	244	1.13	6.17	8.42	2.12	2.47	
-5 (+23)	2475	624	725	267	1.23	7.48	9.29	2.34	2.72	
0 (+32)	2946	742	863	290	1.33	8.95	10.15	2.56	2.97	

### 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