

### COMPRESSOR DEFINITION

Designation	EM Y2130U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513301888

### 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 Back Pressure R290		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°F)	
5 Motor type	CSIR		
6 Starting torque	HST - Hight starting torque		
7 Expansion device	Capillary tube or Expansion valve		
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 / ISO22	
4 Weight (with oil charge)	7.56	[kg] (16.67 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-38	
3 Start capacitor	64-77(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB276K61AY	
6 Start winding resistance	15.23	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.03	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	10.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.50	[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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
1126	284	330	222	1.32	3.35	5.07	1.28	1.49

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	602	152	176	133	1.05	1.78	4.51	1.14	1.32
-35	(-31)	763	192	224	151	1.09	2.26	5.06	1.27	1.48
-30	(-22)	967	244	283	168	1.14	2.87	5.75	1.45	1.69
-25	(-13)	1214	306	356	185	1.19	3.61	6.57	1.66	1.93
-20	(- 4)	1503	379	440	201	1.25	4.49	7.50	1.89	2.20
-15	(+ 5)	1835	462	538	216	1.30	5.50	8.51	2.14	2.49
-10	(+14)	2209	557	647	230	1.36	6.65	9.59	2.42	2.81

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	531	134	156	137	1.06	1.57	3.90	0.98	1.14
-35	(-31)	688	173	202	158	1.12	2.04	4.36	1.10	1.28
-30	(-22)	886	223	259	179	1.18	2.63	4.93	1.24	1.45
-25	(-13)	1123	283	329	200	1.25	3.34	5.60	1.41	1.64
-20	(- 4)	1400	353	410	220	1.32	4.18	6.34	1.60	1.86
-15	(+ 5)	1718	433	503	241	1.39	5.15	7.14	1.80	2.09
-10	(+14)	2075	523	608	261	1.47	6.24	7.97	2.01	2.33

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	485	122	142	138	1.07	1.43	3.50	0.88	1.03
-35	(-31)	629	159	184	162	1.13	1.86	3.88	0.98	1.14
-30	(-22)	811	204	238	187	1.20	2.40	4.34	1.09	1.27
-25	(-13)	1029	259	302	212	1.29	3.06	4.86	1.22	1.42
-20	(- 4)	1286	324	377	238	1.38	3.84	5.42	1.37	1.59
-15	(+ 5)	1579	398	463	263	1.47	4.73	6.00	1.51	1.76
-10	(+14)	1910	481	560	290	1.58	5.75	6.58	1.66	1.93

### 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 + 24° 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		