

COMPRESSOR DEFINITION

Designation	EM T1130U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306273

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	RSIR		
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)	Fan	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Fan	198 to 255 V	-
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 ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2-	[hp]
2 Displacement	6.76	[cm ³] (0.413 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	8	[kg] (17.64 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

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	8EA17C1/8EA17E61/8EA17E62/8EA17E63/8EA17E64/QPS2-A	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM730NDBYY-53	
6 Start winding resistance	25.55	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.42	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	8.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.34	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.62	[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]
1160	292	340	245	1.55	3.45	4.73	1.19	1.39

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]
-40	(-40)	595	150	174	157	1.37	1.76	3.78	0.95	1.11
-35	(-31)	750	189	220	175	1.40	2.22	4.28	1.08	1.25
-30	(-22)	947	239	278	193	1.44	2.81	4.90	1.24	1.44
-25	(-13)	1184	298	347	211	1.48	3.52	5.61	1.41	1.64
-20	(- 4)	1460	368	428	229	1.53	4.36	6.37	1.61	1.87
-15	(+ 5)	1771	446	519	248	1.57	5.31	7.15	1.80	2.09
-10	(+14)	2117	533	620	268	1.60	6.37	7.89	1.99	2.31

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]
-40	(-40)	552	139	162	161	1.37	1.63	3.44	0.87	1.01
-35	(-31)	697	176	204	181	1.40	2.06	3.86	0.97	1.13
-30	(-22)	887	224	260	202	1.45	2.63	4.40	1.11	1.29
-25	(-13)	1121	282	328	223	1.51	3.33	5.03	1.27	1.47
-20	(- 4)	1395	352	409	245	1.57	4.16	5.70	1.44	1.67
-15	(+ 5)	1709	431	501	268	1.62	5.12	6.38	1.61	1.87
-10	(+14)	2059	519	603	293	1.65	6.19	7.02	1.77	2.06

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]
-40	(-40)	508	128	149	165	1.37	1.50	3.07	0.77	0.90
-35	(-31)	641	162	188	187	1.42	1.90	3.44	0.87	1.01
-30	(-22)	822	207	241	209	1.48	2.44	3.93	0.99	1.15
-25	(-13)	1049	264	308	233	1.54	3.12	4.50	1.13	1.32
-20	(- 4)	1321	333	387	259	1.60	3.94	5.10	1.29	1.50
-15	(+ 5)	1634	412	479	286	1.65	4.89	5.71	1.44	1.67
-10	(+14)	1986	501	582	316	1.69	5.97	6.29	1.59	1.84

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		