COMPRESSOR DEFINITION

Designation	**EM T2130U**
Nominal Voltage/Frequency	**220-240 V 50 Hz**
Engineering Number	**513306231**

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 Expantion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	-	-	-
8.2 LBP (43ºC Ambient temperature)	-	-	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm²] (262 psig)	/ ºC - ºF
9.2 Peak	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2-	[hp]
2 Displacement	6.76	[cm³] (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	ALQUILB / ISO22	
4 Weight (with oil charge)	8	[kg] (17.64 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (2.84 to 4.27 psig)

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	MTRPH-0025-65/QL2-5.15 **	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB200L52AXF	
6 Start winding resistance	16.95	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	10.10	[Ω at 25ºC (77ºF)] +/- 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	CE - UKCA - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS:			ASHRAELBP32			Evaporating temperature		-23.3°C (-9.94°F)
@220V50Hz			Fan			(Condensing temperature		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]
1160	292	340	240	1.64	3.45	4.83	1.22	1.42

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32					(Condensing temperature 35ºC (+95ºF))			
@220V50Hz		Fan								
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)	571	144	167	155	1.46	1.69	3.69	0.93	1.08
-35	(-31)	738	186	216	171	1.49	2.18	4.31	1.09	1.26
-30	(-22)	940	237	275	188	1.52	2.79	5.00	1.26	1.47
-25	(-13)	1178	297	345	204	1.56	3.50	5.77	1.45	1.69
-20	(- 4)	1452	366	426	220	1.60	4.33	6.61	1.67	1.94
-15	(+ 5)	1765	445	517	235	1.65	5.29	7.52	1.90	2.20
-10	(+14)	2118	534	621	249	1.69	6.37	8.50	2.14	2.49

TEST CONDITIONS:		ASHRAE32					(Condensing temperature 45ºC (+113ºF))			
@220V50Hz		Fan								
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)	523	132	153	159	1.45	1.54	3.31	0.83	0.97
-35	(-31)	686	173	201	178	1.49	2.03	3.86	0.97	1.13
-30	(-22)	885	223	259	198	1.54	2.62	4.47	1.13	1.31
-25	(-13)	1121	282	328	218	1.59	3.33	5.13	1.29	1.50
-20	(- 4)	1395	351	409	239	1.65	4.16	5.84	1.47	1.71
-15	(+ 5)	1708	430	500	259	1.71	5.12	6.59	1.66	1.93
-10	(+14)	2061	519	604	279	1.78	6.20	7.39	1.86	2.17

TEST CONDITIONS:		ASHRAE32					(Condensing temperature 55ºC (+131ºF))			
@220V50Hz		Fan								
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)	474	119	139	162	1.45	1.40	2.92	0.73	0.85
-35	(-31)	630	159	185	183	1.50	1.86	3.45	0.87	1.01
-30	(-22)	823	207	241	205	1.55	2.44	4.02	1.01	1.18
-25	(-13)	1054	266	309	228	1.62	3.13	4.61	1.16	1.35
-20	(- 4)	1323	333	388	253	1.69	3.95	5.23	1.32	1.53
-15	(+ 5)	1633	412	479	278	1.77	4.89	5.87	1.48	1.72
-10	(+14)	1984	500	581	304	1.86	5.97	6.53	1.65	1.91

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
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 42º 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 parallet BP+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		