

### COMPRESSOR DEFINITION

Designation	EM T6165U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306249

### 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	Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	CSIR		
6 Starting torque	HST - High 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	5.96	[cm <sup>3</sup> ] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
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)	7.75	[kg] (17.09 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (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	64-77(320)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	T0571/G6	
6 Start winding resistance	18.99	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.92	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	12.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.20	[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			ASHRAEHBP46 Fan		Evaporating temperature (Condensing temperature		7.2°C (44.96°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]
2865	722	840	327	2.00	9.81	8.76	2.21	2.57

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-20	(- 4)	1362	343	399	202	1.63	3.84	6.74	1.70	1.97
-15	(+ 5)	1654	417	485	213	1.66	4.69	7.75	1.95	2.27
-10	(+14)	1983	500	581	224	1.69	5.64	8.87	2.24	2.60
-5	(+23)	2363	595	692	233	1.72	6.75	10.14	2.56	2.97
0	(+32)	2809	708	823	243	1.75	8.07	11.58	2.92	3.39
+5	(+41)	3336	841	978	252	1.78	9.65	13.23	3.33	3.88
+10	(+50)	3959	998	1160	262	1.80	11.54	15.10	3.81	4.42

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-20	(- 4)	1195	301	350	216	1.67	3.65	5.56	1.40	1.63
-15	(+ 5)	1473	371	432	232	1.71	4.51	6.34	1.60	1.86
-10	(+14)	1780	449	522	247	1.74	5.48	7.19	1.81	2.11
-5	(+23)	2132	537	625	261	1.78	6.59	8.14	2.05	2.39
0	(+32)	2544	641	746	276	1.82	7.92	9.21	2.32	2.70
+5	(+41)	3031	764	888	290	1.86	9.50	10.44	2.63	3.06
+10	(+50)	3607	909	1057	305	1.91	11.39	11.86	2.99	3.47

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-20	(- 4)	1054	266	309	233	1.72	3.52	4.51	1.14	1.32
-15	(+ 5)	1295	326	380	252	1.76	4.33	5.14	1.29	1.51
-10	(+14)	1560	393	457	270	1.81	5.24	5.79	1.46	1.70
-5	(+23)	1863	469	546	288	1.86	6.30	6.48	1.63	1.90
0	(+32)	2219	559	650	306	1.91	7.56	7.26	1.83	2.13
+5	(+41)	2644	666	775	324	1.97	9.07	8.15	2.05	2.39
+10	(+50)	3151	794	923	343	2.03	10.90	9.18	2.31	2.69

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
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 parallel 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		