

### COMPRESSOR DEFINITION

Designation	EM T2121GK
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306220

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	Low Back Pressure R404A		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°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	25.2	[kgf/cm <sup>2</sup> ] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm <sup>2</sup> ] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	5.19	[cm <sup>3</sup> ] (0.317 cu.in)
2.1 Bore [mm]	21.000	
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)	7.73	[kg] (17.04 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (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	Current Relay	
2.1 Starting device	MTRP-34/QL2-3.95 **	
3 Start capacitor	43-53(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0827/G6	
6 Start winding resistance	21.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.95	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	8.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	2.15	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.30	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - 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]	
1024	258	300	214	1.33	6.94	4.79	1.21	1.40	

### 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)	506	127	148	135	1.14	3.40	3.75	0.94	1.10
-35	(-31)	669	169	196	152	1.18	4.51	4.40	1.11	1.29
-30	(-22)	860	217	252	170	1.23	5.82	5.06	1.27	1.48
-25	(-13)	1086	274	318	189	1.28	7.38	5.75	1.45	1.68
-20	(- 4)	1354	341	397	208	1.34	9.24	6.50	1.64	1.91
-15	(+ 5)	1670	421	489	228	1.40	11.48	7.34	1.85	2.15
-10	(+14)	2042	515	598	246	1.47	14.13	8.29	2.09	2.43

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)	475	120	139	140	1.14	3.19	3.40	0.86	1.00
-35	(-31)	627	158	184	158	1.19	4.22	3.96	1.00	1.16
-30	(-22)	807	203	236	179	1.25	5.45	4.51	1.14	1.32
-25	(-13)	1020	257	299	201	1.31	6.91	5.07	1.28	1.49
-20	(- 4)	1273	321	373	224	1.39	8.68	5.68	1.43	1.66
-15	(+ 5)	1574	397	461	248	1.47	10.80	6.34	1.60	1.86
-10	(+14)	1930	486	565	272	1.56	13.32	7.10	1.79	2.08

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)	448	113	131	141	1.13	3.00	3.17	0.80	0.93
-35	(-31)	594	150	174	162	1.19	3.99	3.68	0.93	1.08
-30	(-22)	766	193	224	185	1.27	5.16	4.15	1.05	1.22
-25	(-13)	970	244	284	210	1.35	6.56	4.61	1.16	1.35
-20	(- 4)	1214	306	356	238	1.45	8.25	5.10	1.29	1.49
-15	(+ 5)	1503	379	441	267	1.55	10.29	5.63	1.42	1.65
-10	(+14)	1846	465	541	296	1.66	12.72	6.23	1.57	1.83

### 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		