

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 - Hight starting torque		
7 Expantion device	Capillary tube or Expansion valve		
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 pressures/temperature			
9.1 Operating (gauge)	25,7	[kgf/cm ²] (365 psig)	/ °C - °F
9.2 Peak (gauge)	28,7	[kgf/cm ²] (408 psig)	
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	5,19	[cm ³] (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 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	Current Relay	
2.1 Starting device	MTRP-34	
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	[Wat 25°C (77°F)] +/- 8%
7 Run winding resistance	12.95	[Wat 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	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	128	148	135	1,14	3,40	3,75	0,95	1,10
-35 (-31)	668	168	196	152	1,18	4,50	4,40	1,11	1,29
-30 (-22)	860	217	252	170	1,23	5,82	5,06	1,28	1,48
-25 (-13)	1086	274	318	189	1,28	7,38	5,75	1,45	1,69
-20 (- 4)	1354	341	397	208	1,34	9,25	6,51	1,64	1,91
-15 (+ 5)	1670	421	489	228	1,40	11,47	7,33	1,85	2,15
-10 (+14)	2042	515	598	246	1,47	14,13	8,30	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	3,39	0,85	0,99
-35 (-31)	628	158	184	158	1,19	4,23	3,98	1,00	1,17
-30 (-22)	806	203	236	179	1,25	5,44	4,50	1,13	1,32
-25 (-13)	1019	257	299	201	1,31	6,91	5,07	1,28	1,49
-20 (- 4)	1274	321	373	224	1,39	8,68	5,69	1,43	1,67
-15 (+ 5)	1574	397	461	248	1,47	10,79	6,35	1,60	1,86
-10 (+14)	1930	487	566	272	1,56	13,33	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	3,18	0,80	0,93
-35 (-31)	595	150	174	162	1,19	4,00	3,67	0,93	1,08
-30 (-22)	766	193	224	185	1,27	5,16	4,14	1,04	1,21
-25 (-13)	970	245	284	210	1,35	6,57	4,62	1,16	1,35
-20 (- 4)	1214	306	356	238	1,45	8,26	5,10	1,29	1,49
-15 (+ 5)	1503	379	440	267	1,56	10,28	5,63	1,42	1,65
-10 (+14)	1846	465	541	296	1,66	12,72	6,24	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		