

COMPRESSOR DEFINITION

Designation	EM T1121U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306280

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)	-	-	-
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	1/3-	[hp]
2 Displacement	5.56	[cm ³] (0.339 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	14.000	
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)	7.76	[kg] (17.11 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/QPS2-A22MG1/QPS2-A22MG1 092	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM276RFBYY-53	
6 Start winding resistance	26.57	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	16.77	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	8.11	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	2.07	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.22	[A] - Measured according to UL 984
11 Approval boards certification		

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]
981	247	287	199	1.38	2.92	4.93	1.24	1.44

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)	500	126	146	130	1.24	1.48	3.81	0.96	1.12
-35	(-31)	645	162	189	143	1.26	1.91	4.51	1.14	1.32
-30	(-22)	814	205	239	157	1.28	2.41	5.19	1.31	1.52
-25	(-13)	1011	255	296	172	1.31	3.01	5.90	1.49	1.73
-20	(- 4)	1239	312	363	185	1.34	3.70	6.70	1.69	1.96
-15	(+ 5)	1501	378	440	197	1.37	4.50	7.63	1.92	2.23
-10	(+14)	1800	454	527	206	1.40	5.42	8.74	2.20	2.56

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)	457	115	134	133	1.25	1.35	3.43	0.86	1.00
-35	(-31)	599	151	176	148	1.27	1.77	4.07	1.03	1.19
-30	(-22)	764	192	224	164	1.30	2.26	4.66	1.17	1.37
-25	(-13)	954	240	280	181	1.33	2.84	5.25	1.32	1.54
-20	(- 4)	1173	296	344	199	1.37	3.50	5.88	1.48	1.72
-15	(+ 5)	1424	359	417	215	1.42	4.27	6.61	1.67	1.94
-10	(+14)	1710	431	501	229	1.46	5.14	7.49	1.89	2.19

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)	415	105	122	137	1.26	1.23	3.02	0.76	0.89
-35	(-31)	552	139	162	152	1.28	1.63	3.64	0.92	1.07
-30	(-22)	709	179	208	171	1.31	2.10	4.17	1.05	1.22
-25	(-13)	890	224	261	191	1.35	2.65	4.66	1.17	1.36
-20	(- 4)	1097	276	322	212	1.41	3.27	5.16	1.30	1.51
-15	(+ 5)	1334	336	391	232	1.46	4.00	5.72	1.44	1.68
-10	(+14)	1604	404	470	252	1.52	4.83	6.39	1.61	1.87

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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		