COMPRESSOR DEFINITION

Designation	**EM 2X1121U**
Nominal Voltage/Frequency	**220-240 V 50 Hz**
Engineering Number	**513300906**

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	Very Low Back Pressure (Hot Gas Defrost not allowed)		
4.1 Evaporating temperature range	-45°C to -10°C	(-49°F to 14°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
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	1/3	[hp]
2 Displacement	5.54	[cm³] (0.338 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.2	[kg] (18.08 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELECTRICAL 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	7M220MD3/8EA17C3/8M220MD3/QP2-20A/QPS2-A22MD3/QPS	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM283KFBYY-73	
6 Start winding resistance	13.60	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	12.10	[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	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V50Hz**			**ASHRAELBP32** **Static**		Evaporating temperature (Condensing temperature		**-23.3°C (-9.94°F)** **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]
933	235	273	152	0.73	2.78	6.14	1.55	1.80

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz** — **ASHRAE32** **Static** — (Condensing temperature **35ºC (+95ºF))**

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)**	510	129	150	101	0.62	1.51	5.15	1.30	1.51
-35	**(-31)**	424	107	124	85	0.48	1.25	4.80	1.21	1.41
-30	**(-22)**	702	177	206	107	0.56	2.08	6.40	1.61	1.88
-25	**(-13)**	1078	272	316	139	0.70	3.21	8.40	2.12	2.46
-20	**(- 4)**	1286	324	377	153	0.76	3.84	9.21	2.32	2.70
-15	**(+ 5)**	1060	267	311	119	0.59	3.17	7.28	1.84	2.13
-10	**(+14)**	134	34	39	8	0.04	0.40	1.04	0.26	0.30

TEST CONDITIONS: **@220V50Hz** — **ASHRAE32** **Static** — (Condensing temperature **45ºC (+113ºF))**

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)**	479	121	140	102	0.56	1.42	4.73	1.19	1.39
-35	**(-31)**	373	94	109	90	0.47	1.09	4.03	1.01	1.18
-30	**(-22)**	639	161	187	116	0.58	1.89	5.42	1.37	1.59
-25	**(-13)**	1013	255	297	150	0.74	3.02	7.35	1.85	2.15
-20	**(- 4)**	1227	309	360	163	0.81	3.67	8.23	2.08	2.41
-15	**(+ 5)**	1017	256	298	127	0.63	3.04	6.52	1.64	1.91
-10	**(+14)**	116	29	34	12	0.06	0.35	0.63	0.16	0.18

TEST CONDITIONS: **@220V50Hz** — **ASHRAE32** **Static** — (Condensing temperature **55ºC (+131ºF))**

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)**	443	112	130	101	0.54	1.31	4.36	1.10	1.28
-35	**(-31)**	317	80	93	95	0.49	0.93	3.32	0.84	0.97
-30	**(-22)**	572	144	168	124	0.62	1.69	4.52	1.14	1.32
-25	**(-13)**	944	238	277	160	0.80	2.81	6.39	1.61	1.87
-20	**(- 4)**	1166	294	342	173	0.86	3.48	7.36	1.86	2.16
-15	**(+ 5)**	972	245	285	135	0.67	2.91	5.87	1.48	1.72
-10	**(+14)**	96	24	28	17	0.07	0.29	0.35	0.09	0.10

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		