

COMPRESSOR DEFINITION

Designation	EM X3125U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513300899

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-Medium (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 5°C	(-31°F to 41°F)	
5 Motor type	RSCR		
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)	-	-	-
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		[hp]
2 Displacement	6.09	[cm ³] (0.372 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	17.600	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO22	
4 Weight (with oil charge)	7.65	[kg] (16.87 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	8EA17C3/8EA17E61/8EA17E62/8EA17E63/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(450)	[µF(VAC minimum)]
5 Motor protection	BT74-120A61D3	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - 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 (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]
1000	252	293	177	0.84	2.98	5.67	1.43	1.66

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan				(Condensing temperature 35°C (+95°F))				
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]
-35	(-31)	702	177	206	122	0.60	2.08	5.73	1.44	1.68
-30	(-22)	874	220	256	135	0.66	2.59	6.44	1.62	1.89
-25	(-13)	1085	273	318	148	0.71	3.23	7.30	1.84	2.14
-20	(- 4)	1338	337	392	161	0.77	3.99	8.34	2.10	2.44
-15	(+ 5)	1640	413	480	172	0.82	4.91	9.58	2.42	2.81
-10	(+14)	1993	502	584	181	0.86	6.00	11.07	2.79	3.24
-5	(+23)	2402	605	704	189	0.90	7.27	12.81	3.23	3.76
0	(+32)	2871	724	841	194	0.92	8.74	14.85	3.74	4.35
+5	(+41)	3406	858	998	197	0.93	10.43	17.20	4.33	5.04

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan				(Condensing temperature 45°C (+113°F))				
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]
-35	(-31)	636	160	186	129	0.63	1.88	4.99	1.26	1.46
-30	(-22)	810	204	237	145	0.70	2.40	5.61	1.41	1.64
-25	(-13)	1020	257	299	160	0.77	3.04	6.33	1.59	1.85
-20	(- 4)	1271	320	373	176	0.84	3.79	7.16	1.81	2.10
-15	(+ 5)	1567	395	459	190	0.91	4.69	8.14	2.05	2.39
-10	(+14)	1912	482	560	204	0.97	5.75	9.29	2.34	2.72
-5	(+23)	2311	582	677	216	1.02	6.99	10.64	2.68	3.12
0	(+32)	2767	697	811	227	1.07	8.42	12.22	3.08	3.58
+5	(+41)	3286	828	963	235	1.11	10.06	14.05	3.54	4.12

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan			(Condensing temperature 55°C (+131°F))					
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]
-35	(-31)	586	148	172	132	0.64	1.73	4.49	1.13	1.32
-30	(-22)	759	191	222	150	0.73	2.25	5.10	1.29	1.49
-25	(-13)	965	243	283	169	0.81	2.87	5.74	1.45	1.68
-20	(- 4)	1209	305	354	188	0.89	3.61	6.43	1.62	1.88
-15	(+ 5)	1496	377	438	207	0.98	4.48	7.20	1.81	2.11
-10	(+14)	1829	461	536	225	1.06	5.50	8.08	2.04	2.37
-5	(+23)	2213	558	649	242	1.14	6.69	9.10	2.29	2.67
0	(+32)	2653	668	777	257	1.21	8.07	10.29	2.59	3.01
+5	(+41)	3152	794	924	271	1.28	9.65	11.66	2.94	3.42

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan			(Condensing temperature 65°C (+149°F))					
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]
-35	(-31)	522	132	153	132	0.65	1.54	3.84	0.97	1.13
-30	(-22)	690	174	202	154	0.74	2.05	4.50	1.13	1.32
-25	(-13)	888	224	260	176	0.84	2.64	5.12	1.29	1.50
-20	(- 4)	1121	283	329	198	0.94	3.34	5.73	1.45	1.68
-15	(+ 5)	1395	351	409	221	1.05	4.17	6.37	1.60	1.87
-10	(+14)	1712	431	502	244	1.15	5.15	7.05	1.78	2.06
-5	(+23)	2078	524	609	266	1.26	6.28	7.80	1.97	2.29
0	(+32)	2497	629	732	287	1.35	7.59	8.65	2.18	2.54
+5	(+41)	2973	749	871	307	1.45	9.10	9.63	2.43	2.82

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
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 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	6.1 +0.10/+0.00 [mm] (0.240" +0.004"/+0.000")
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