

COMPRESSOR DEFINITION

Designation	EM 2X1125U
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513304029

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220 / 60	[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	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)	Static	-	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 to 242 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	19.1	[kgf/cm ²] (272 psig)	/ °C - °F
9.2 Peak (gauge)	21.2	[kgf/cm ²] (301 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[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	ESTER / ISO10	
4 Weight (with oil charge)	8.19	[kg] (18.06 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-D-220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	CP4TMC283N61	
6 Start winding resistance	13.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.32	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.84	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			ASHRAELBP32 Static		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]
1245	314	365	208	1.00	3.71	5.99	1.51	1.76

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			ASHRAE32 Static		(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)	603	152	177	127	0.72	1.78	4.76	1.20	1.39
-35	(-31)	768	194	225	143	0.78	2.27	5.41	1.36	1.58
-30	(-22)	974	245	285	159	0.84	2.89	6.15	1.55	1.80
-25	(-13)	1224	308	359	175	0.91	3.64	6.99	1.76	2.05
-20	(- 4)	1523	384	446	191	0.98	4.55	7.96	2.01	2.33
-15	(+ 5)	1876	473	550	207	1.05	5.62	9.06	2.28	2.66
-10	(+14)	2285	576	670	221	1.11	6.88	10.33	2.60	3.03

TEST CONDITIONS: @220V60Hz			ASHRAE32 Static		(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)	578	146	169	131	0.73	1.71	4.37	1.10	1.28
-35	(-31)	746	188	218	149	0.81	2.21	4.97	1.25	1.46
-30	(-22)	950	239	278	169	0.89	2.82	5.62	1.42	1.65
-25	(-13)	1196	301	350	188	0.97	3.56	6.34	1.60	1.86
-20	(- 4)	1487	375	436	208	1.05	4.44	7.14	1.80	2.09
-15	(+ 5)	1827	460	535	227	1.14	5.47	8.04	2.03	2.36
-10	(+14)	2220	559	650	246	1.23	6.68	9.06	2.28	2.65

TEST CONDITIONS: @220V60Hz			ASHRAE32 Static		(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)	498	126	146	132	0.74	1.47	3.78	0.95	1.11
-35	(-31)	672	169	197	154	0.82	1.99	4.37	1.10	1.28
-30	(-22)	879	221	258	177	0.92	2.61	4.98	1.25	1.46
-25	(-13)	1123	283	329	200	1.02	3.34	5.61	1.41	1.64
-20	(- 4)	1408	355	413	224	1.12	4.20	6.28	1.58	1.84
-15	(+ 5)	1738	438	509	247	1.22	5.21	7.02	1.77	2.06
-10	(+14)	2118	534	621	270	1.33	6.37	7.84	1.98	2.30

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°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)	423	106	124	129	0.74	1.25	3.28	0.83	0.96
-35	(-31)	605	153	177	155	0.83	1.79	3.91	0.99	1.15
-30	(-22)	817	206	239	181	0.94	2.42	4.51	1.14	1.32
-25	(-13)	1063	268	311	209	1.05	3.16	5.10	1.28	1.49
-20	(- 4)	1345	339	394	237	1.17	4.01	5.69	1.43	1.67
-15	(+ 5)	1669	421	489	264	1.29	5.00	6.31	1.59	1.85
-10	(+14)	2038	513	597	292	1.42	6.13	6.97	1.76	2.04

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate 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		