

COMPRESSOR DEFINITION

Designation	EM I90UEX
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513307374

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°F)	
5 Motor type	CSIR		
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)	Fan	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Fan	-	98 to 140 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	1/4+	[hp]
2 Displacement	4.99	[cm ³] (0.305 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO32	
4 Weight (with oil charge)	7.67	[kg] (16.91 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213515293	
3 Start capacitor	189-227(132)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MSP36ALZ-5590	
6 Start winding resistance	8.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.65	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	23.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]	
973	245	285	210	3.09	2.90	4.63	1.17	1.36	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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]
-35	(-31)	626	158	183	154	2.89	1.85	4.05	1.02	1.19
-30	(-22)	794	200	233	170	2.93	2.35	4.69	1.18	1.37
-25	(-13)	998	252	292	184	2.98	2.97	5.44	1.37	1.59
-20	(- 4)	1243	313	364	198	3.05	3.71	6.29	1.59	1.84
-15	(+ 5)	1533	386	449	211	3.12	4.59	7.25	1.83	2.13
-10	(+14)	1872	472	548	225	3.20	5.63	8.31	2.09	2.43
-5	(+23)	2264	571	663	239	3.28	6.85	9.46	2.38	2.77

TEST CONDITIONS: @115V60Hz		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]
-35	(-31)	587	148	172	161	2.91	1.74	3.65	0.92	1.07
-30	(-22)	752	190	220	178	2.96	2.23	4.22	1.06	1.24
-25	(-13)	951	240	279	195	3.02	2.83	4.88	1.23	1.43
-20	(- 4)	1187	299	348	211	3.10	3.54	5.61	1.41	1.64
-15	(+ 5)	1465	369	429	228	3.19	4.39	6.42	1.62	1.88
-10	(+14)	1789	451	524	245	3.29	5.38	7.31	1.84	2.14
-5	(+23)	2163	545	634	262	3.40	6.54	8.25	2.08	2.42

TEST CONDITIONS: @115V60Hz		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]
-35	(-31)	544	137	159	165	2.92	1.61	3.31	0.83	0.97
-30	(-22)	707	178	207	184	2.98	2.10	3.83	0.96	1.12
-25	(-13)	899	227	263	204	3.06	2.67	4.40	1.11	1.29
-20	(- 4)	1126	284	330	223	3.16	3.36	5.03	1.27	1.48
-15	(+ 5)	1392	351	408	243	3.27	4.17	5.71	1.44	1.67
-10	(+14)	1700	428	498	264	3.40	5.12	6.44	1.62	1.89
-5	(+23)	2056	518	602	286	3.53	6.22	7.20	1.81	2.11

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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]
-35	(-31)	498	125	146	166	2.93	1.47	2.99	0.75	0.88
-30	(-22)	657	166	192	189	3.00	1.95	3.48	0.88	1.02
-25	(-13)	843	212	247	211	3.10	2.51	3.99	1.01	1.17
-20	(- 4)	1060	267	311	234	3.22	3.16	4.53	1.14	1.33
-15	(+ 5)	1313	331	385	258	3.36	3.93	5.10	1.28	1.49
-10	(+14)	1606	405	470	283	3.52	4.83	5.68	1.43	1.66
-5	(+23)	1942	489	569	309	3.69	5.87	6.28	1.58	1.84

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
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	Straight		
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		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		