

COMPRESSOR DEFINITION

Designation	EM I50UER
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513307377

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	RSIR-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)	Static/Fan	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	103 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	1/6	[hp]
2 Displacement	3.00	[cm ³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
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)	8	[kg] (17.64 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514091/213515003	
3 Start capacitor	145-175(160)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743PFBYY-53	
6 Start winding resistance	28.18	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.96	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.62	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	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]	
522	132	153	116	1.30	1.55	4.51	1.14	1.32	

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)	336	85	98	80	0.86	0.99	4.20	1.06	1.23
-30	(-22)	447	113	131	90	0.97	1.33	4.97	1.25	1.46
-25	(-13)	579	146	170	100	1.08	1.72	5.81	1.46	1.70
-20	(- 4)	733	185	215	109	1.18	2.19	6.73	1.70	1.97
-15	(+ 5)	907	229	266	118	1.28	2.72	7.76	1.96	2.27
-10	(+14)	1100	277	322	125	1.35	3.31	8.90	2.24	2.61
-5	(+23)	1312	331	384	128	1.39	3.97	10.16	2.56	2.98

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)	297	75	87	81	0.87	0.88	3.68	0.93	1.08
-30	(-22)	400	101	117	92	0.98	1.19	4.35	1.10	1.28
-25	(-13)	528	133	155	103	1.11	1.57	5.06	1.28	1.48
-20	(- 4)	679	171	199	116	1.25	2.03	5.83	1.47	1.71
-15	(+ 5)	854	215	250	128	1.38	2.56	6.65	1.68	1.95
-10	(+14)	1051	265	308	139	1.50	3.16	7.56	1.90	2.21
-5	(+23)	1270	320	372	149	1.60	3.84	8.56	2.16	2.51

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)	257	65	75	82	0.88	0.76	3.18	0.80	0.93
-30	(-22)	350	88	103	93	1.00	1.04	3.81	0.96	1.12
-25	(-13)	470	118	138	106	1.14	1.40	4.44	1.12	1.30
-20	(- 4)	617	155	181	121	1.30	1.84	5.09	1.28	1.49
-15	(+ 5)	790	199	231	136	1.47	2.37	5.78	1.46	1.69
-10	(+14)	988	249	290	152	1.64	2.97	6.51	1.64	1.91
-5	(+23)	1211	305	355	166	1.79	3.66	7.30	1.84	2.14

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)	208	52	61	80	0.86	0.62	2.58	0.65	0.76
-30	(-22)	288	72	84	91	0.97	0.85	3.22	0.81	0.94
-25	(-13)	398	100	117	105	1.13	1.18	3.84	0.97	1.12
-20	(- 4)	537	135	157	122	1.31	1.60	4.43	1.12	1.30
-15	(+ 5)	706	178	207	140	1.51	2.11	5.02	1.27	1.47
-10	(+14)	903	228	265	160	1.73	2.72	5.63	1.42	1.65
-5	(+23)	1127	284	330	180	1.94	3.41	6.26	1.58	1.84

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +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	Slanted		
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		