

COMPRESSOR DEFINITION

Designation	EM I55HER
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513308088

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 50-60	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°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	198 to 255 V	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	198 to 255 V	198 to 242 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	4.60	[cm ³] (0.281 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.300	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.64	[kg] (16.84 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	220 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514059/213515001	
3 Start capacitor	108-130(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM 718NFBYY-53	
6 Start winding resistance	28.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	18.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.40/10.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.11/0.95	[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	CE - TUV - UKCA	

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 +/- 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]	
420	106	123	100	0.82	2.39	4.20	1.06	1.23	

TEST CONDITIONS: @220V50Hz			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]	
420	106	123	100	0.75	2.39	4.20	1.06	1.23	

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]	
510	129	149	115	0.75	2.90	4.45	1.12	1.30	

TEST CONDITIONS: @220V60Hz			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]	
510	129	149	115	0.75	2.90	4.45	1.12	1.30	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-35	(-31)	244	61	71	73	0.79	1.38	3.32	0.84	0.97
-30	(-22)	321	81	94	84	0.81	1.82	3.83	0.97	1.12
-25	(-13)	422	106	124	95	0.83	2.40	4.45	1.12	1.31
-20	(- 4)	553	139	162	106	0.85	3.15	5.19	1.31	1.52
-15	(+ 5)	717	181	210	118	0.88	4.10	6.04	1.52	1.77
-10	(+14)	920	232	269	131	0.91	5.27	6.99	1.76	2.05

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-35 (-31)	195	49	57	72	0.79	1.10	2.69	0.68	0.79	
-30 (-22)	280	71	82	85	0.81	1.59	3.29	0.83	0.97	
-25 (-13)	384	97	113	98	0.83	2.18	3.95	0.99	1.16	
-20 (- 4)	512	129	150	111	0.86	2.92	4.64	1.17	1.36	
-15 (+ 5)	669	169	196	125	0.89	3.82	5.38	1.35	1.58	
-10 (+14)	860	217	252	140	0.93	4.92	6.15	1.55	1.80	

TEST CONDITIONS: @220V50Hz		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]
-35 (-31)	129	33	38	68	0.77	0.73	1.91	0.48	0.56	
-30 (-22)	227	57	67	83	0.80	1.29	2.69	0.68	0.79	
-25 (-13)	339	86	99	98	0.82	1.93	3.45	0.87	1.01	
-20 (- 4)	471	119	138	113	0.86	2.68	4.17	1.05	1.22	
-15 (+ 5)	626	158	184	129	0.89	3.57	4.87	1.23	1.43	
-10 (+14)	810	204	237	147	0.94	4.64	5.53	1.39	1.62	

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]
-35 (-31)	266	67	78	78	0.65	1.51	3.39	0.85	0.99	
-30 (-22)	378	95	111	93	0.70	2.14	4.07	1.02	1.19	
-25 (-13)	513	129	150	107	0.74	2.91	4.77	1.20	1.40	
-20 (- 4)	675	170	198	123	0.79	3.84	5.51	1.39	1.61	
-15 (+ 5)	869	219	254	139	0.84	4.96	6.28	1.58	1.84	
-10 (+14)	1097	276	321	155	0.90	6.28	7.09	1.79	2.08	

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]
-35 (-31)	225	57	66	77	0.66	1.27	2.91	0.73	0.85	
-30 (-22)	327	82	96	93	0.70	1.85	3.51	0.88	1.03	
-25 (-13)	455	115	133	110	0.75	2.58	4.14	1.04	1.21	
-20 (- 4)	612	154	179	128	0.81	3.48	4.79	1.21	1.40	
-15 (+ 5)	802	202	235	147	0.87	4.58	5.47	1.38	1.60	
-10 (+14)	1029	259	301	166	0.94	5.89	6.18	1.56	1.81	

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]
-35	(-31)	178	45	52	72	0.63	1.00	2.47	0.62	0.72
-30	(-22)	269	68	79	90	0.68	1.52	3.01	0.76	0.88
-25	(-13)	388	98	114	109	0.74	2.20	3.56	0.90	1.04
-20	(- 4)	538	136	158	130	0.81	3.06	4.14	1.04	1.21
-15	(+ 5)	724	182	212	153	0.89	4.13	4.73	1.19	1.39
-10	(+14)	948	239	278	177	0.98	5.43	5.36	1.35	1.57

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +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		