

COMPRESSOR DEFINITION

Designation	EM 55HNR
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513307329

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	187 to 242 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	187 to 242 V	187 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/cm²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	4.60	[cm³] (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)	7.58	[kg] (16.71 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (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	213514130/213515004	
3 Start capacitor	53-64(190)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM718RFBYY-53	
6 Start winding resistance	45.15	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.25	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.00/9.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.30/1.10	[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	TUV - VDE	

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	115	1.00	2.39	3.65	0.92	1.07

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	126	0.86	2.90	4.05	1.02	1.19

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]	[W/W]
-35	(-31)	221	56	65	85	0.96	1.25	2.58	0.65	0.76
-30	(-22)	314	79	92	95	0.97	1.78	3.30	0.83	0.97
-25	(-13)	420	106	123	105	0.98	2.38	4.01	1.01	1.17
-20	(- 4)	546	138	160	115	1.00	3.11	4.74	1.19	1.39
-15	(+ 5)	702	177	206	126	1.03	4.01	5.54	1.40	1.62
-10	(+14)	895	226	262	138	1.06	5.13	6.45	1.63	1.89

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)	172	43	50	83	0.95	0.97	2.09	0.53	0.61
-30	(-22)	269	68	79	95	0.97	1.52	2.83	0.71	0.83
-25	(-13)	374	94	110	107	0.99	2.12	3.51	0.88	1.03
-20	(- 4)	496	125	145	119	1.01	2.82	4.17	1.05	1.22
-15	(+ 5)	643	162	188	132	1.04	3.67	4.86	1.23	1.42
-10	(+14)	823	207	241	146	1.08	4.72	5.61	1.41	1.65

E - PERFORMANCE - CURVES

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	119	30	35	78	0.96	0.67	1.52	0.38	0.45
-30	(-22)	219	55	64	93	0.97	1.24	2.31	0.58	0.68
-25	(-13)	323	82	95	107	0.99	1.84	3.00	0.76	0.88
-20	(- 4)	440	111	129	121	1.02	2.51	3.64	0.92	1.07
-15	(+ 5)	578	146	169	137	1.05	3.30	4.25	1.07	1.25
-10	(+14)	745	188	218	153	1.09	4.27	4.88	1.23	1.43

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	213	54	62	85	0.77	1.20	2.49	0.63	0.73
-30	(-22)	338	85	99	97	0.79	1.92	3.47	0.88	1.02
-25	(-13)	487	123	143	111	0.83	2.76	4.39	1.11	1.29
-20	(- 4)	660	166	193	126	0.87	3.75	5.25	1.32	1.54
-15	(+ 5)	858	216	251	142	0.92	4.90	6.08	1.53	1.78
-10	(+14)	1083	273	317	157	0.98	6.21	6.90	1.74	2.02

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	171	43	50	85	0.76	0.97	2.03	0.51	0.60
-30	(-22)	290	73	85	99	0.79	1.64	2.93	0.74	0.86
-25	(-13)	433	109	127	115	0.84	2.46	3.76	0.95	1.10
-20	(- 4)	602	152	176	132	0.89	3.43	4.53	1.14	1.33
-15	(+ 5)	798	201	234	151	0.96	4.55	5.27	1.33	1.54
-10	(+14)	1022	257	299	171	1.03	5.85	5.98	1.51	1.75

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	145	37	43	78	0.75	0.82	1.85	0.47	0.54
-30	(-22)	247	62	72	93	0.78	1.40	2.65	0.67	0.78
-25	(-13)	374	94	110	111	0.83	2.13	3.37	0.85	0.99
-20	(- 4)	529	133	155	131	0.89	3.01	4.02	1.01	1.18
-15	(+ 5)	711	179	208	153	0.97	4.06	4.63	1.17	1.36
-10	(+14)	923	233	270	177	1.05	5.29	5.22	1.31	1.53

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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	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	6.5 +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		