

COMPRESSOR DEFINITION

Designation	EG AS90HLR
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701041

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 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	198 to 255 V	198 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	198 to 255 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/3-	[hp]
2 Displacement	7.15	[cm ³] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10.5	[kg] (23.15 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516256/213516493	
3 Start capacitor	88-108(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	5TM743LDBYY-53	
6 Start winding resistance	38.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.90	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	14.30/13.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.70/1.50	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.00/1.80	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

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]
748	188	219	146	1.15	4.25	5.12	1.29	1.50

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]
925	233	271	170	1.09	5.26	5.44	1.37	1.59

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)	387	98	113	103	1.07	2.19	3.75	0.95	1.10
-30 (-22)	538	136	158	119	1.10	3.05	4.54	1.14	1.33
-25 (-13)	716	181	210	134	1.13	4.07	5.36	1.35	1.57
-20 (- 4)	932	235	273	149	1.17	5.30	6.24	1.57	1.83
-15 (+ 5)	1193	301	350	165	1.21	6.81	7.19	1.81	2.11
-10 (+14)	1508	380	442	182	1.26	8.64	8.23	2.07	2.41

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)	325	82	95	98	1.07	1.84	3.33	0.84	0.98
-30 (-22)	488	123	143	119	1.11	2.76	4.09	1.03	1.20
-25 (-13)	673	169	197	139	1.15	3.82	4.84	1.22	1.42
-20 (- 4)	888	224	260	159	1.19	5.06	5.61	1.41	1.64
-15 (+ 5)	1144	288	335	179	1.25	6.53	6.41	1.62	1.88
-10 (+14)	1448	365	424	199	1.31	8.30	7.27	1.83	2.13

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%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	237	60	69	86	1.05	1.34	2.75	0.69	0.81
-30	(-22)	412	104	121	115	1.10	2.34	3.52	0.89	1.03
-25	(-13)	604	152	177	141	1.15	3.43	4.25	1.07	1.25
-20	(- 4)	822	207	241	166	1.21	4.67	4.95	1.25	1.45
-15	(+ 5)	1073	270	314	191	1.28	6.12	5.65	1.42	1.66
-10	(+14)	1367	345	401	215	1.36	7.83	6.36	1.60	1.86

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	Slanted		
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	Slanted		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		