

COMPRESSOR DEFINITION

Designation	EG AS70HLR
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701120

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	1/5+	[hp]
2 Displacement	5.56	[cm ³] (0.339 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	7.000	
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)	10.39	[kg] (22.91 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		
3 Start capacitor	88-108(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM739KFBYY-53	
6 Start winding resistance	32.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	14.40/13.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.55/1.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.85/1.65	[A] - Measured according to UL 984
11 Approval boards certification	IRAM - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature	-23.3°C (-9.94°F)		
					(Condensing temperature)	54.4°C (129.92°F)		
Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
560	141	164	111	0.96	3.18	5.03	1.27	1.47

TEST CONDITIONS: @220V60Hz			ASHRAELBP32 Static		Evaporating temperature	-23.3°C (-9.94°F)		
					(Condensing temperature)	54.4°C (129.92°F)		
Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
695	175	204	129	0.88	3.95	5.40	1.36	1.58

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))				
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	270	68	79	72	0.62	1.53	3.76	0.95	1.10
-30 (-22)	400	101	117	88	0.75	2.27	4.50	1.13	1.32
-25 (-13)	563	142	165	106	0.90	3.20	5.28	1.33	1.55
-20 (- 4)	756	190	221	124	1.06	4.30	6.11	1.54	1.79
-15 (+ 5)	972	245	285	140	1.21	5.55	6.98	1.76	2.05
-10 (+14)	1209	305	354	155	1.34	6.93	7.88	1.99	2.31

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))				
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	230	58	67	64	0.56	1.30	3.63	0.91	1.06
-30 (-22)	343	86	101	82	0.72	1.94	4.17	1.05	1.22
-25 (-13)	496	125	145	104	0.89	2.81	4.77	1.20	1.40
-20 (- 4)	683	172	200	126	1.08	3.89	5.40	1.36	1.58
-15 (+ 5)	901	227	264	148	1.28	5.14	6.07	1.53	1.78
-10 (+14)	1146	289	336	169	1.47	6.56	6.78	1.71	1.99

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)	181	46	53	57	0.51	1.02	3.16	0.80	0.93	
-30 (-22)	274	69	80	77	0.67	1.55	3.63	0.91	1.06	
-25 (-13)	412	104	121	100	0.86	2.34	4.14	1.04	1.21	
-20 (- 4)	592	149	173	126	1.08	3.37	4.69	1.18	1.37	
-15 (+ 5)	808	204	237	152	1.32	4.62	5.28	1.33	1.55	
-10 (+14)	1058	266	310	179	1.56	6.06	5.91	1.49	1.73	

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)	335	85	98	83	0.57	1.90	4.04	1.02	1.18	
-30 (-22)	497	125	146	102	0.69	2.82	4.83	1.22	1.42	
-25 (-13)	700	176	205	123	0.83	3.97	5.67	1.43	1.66	
-20 (- 4)	938	236	275	143	0.97	5.34	6.56	1.65	1.92	
-15 (+ 5)	1207	304	354	162	1.10	6.89	7.49	1.89	2.19	
-10 (+14)	1501	378	440	179	1.23	8.60	8.46	2.13	2.48	

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)	286	72	84	73	0.51	1.62	3.90	0.98	1.14	
-30 (-22)	426	107	125	95	0.65	2.42	4.49	1.13	1.31	
-25 (-13)	616	155	180	120	0.81	3.50	5.12	1.29	1.50	
-20 (- 4)	848	214	249	146	0.99	4.83	5.80	1.46	1.70	
-15 (+ 5)	1119	282	328	171	1.17	6.39	6.52	1.64	1.91	
-10 (+14)	1422	358	417	196	1.34	8.15	7.28	1.83	2.13	

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)	224	56	66	66	0.47	1.27	3.39	0.85	0.99	
-30 (-22)	340	86	100	89	0.61	1.93	3.89	0.98	1.14	
-25 (-13)	512	129	150	116	0.79	2.91	4.44	1.12	1.30	
-20 (- 4)	735	185	215	145	0.99	4.18	5.04	1.27	1.48	
-15 (+ 5)	1004	253	294	176	1.21	5.73	5.67	1.43	1.66	
-10 (+14)	1313	331	385	206	1.43	7.52	6.34	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	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	Straight		
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		