

COMPRESSOR DEFINITION

Designation	EG 85HLR
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513700331

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-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	187 to 255 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	187 to 255 V	187 to 242 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	1/4+	[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)	11.12	[kg] (24.51 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	213516078/213516086	
3 Start capacitor	108-130(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	30.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.52	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	15.20/14.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.90/1.66	[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	IRAM - 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]	
705	178	207	152	1.32	4.01	4.65	1.17	1.36	

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]	
705	178	207	152	1.32	4.01	4.65	1.17	1.36	

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]	
840	212	246	168	1.20	4.77	5.00	1.26	1.47	

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]	
840	212	246	168	1.20	4.77	5.00	1.26	1.47	

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)	378	95	111	103	1.21	2.14	3.65	0.92	1.07
-30	(-22)	525	132	154	125	1.24	2.98	4.24	1.07	1.24
-25	(-13)	705	178	207	142	1.28	4.00	4.98	1.26	1.46
-20	(- 4)	924	233	271	159	1.33	5.26	5.84	1.47	1.71
-15	(+ 5)	1189	300	349	175	1.38	6.79	6.77	1.71	1.98
-10	(+14)	1509	380	442	194	1.43	8.65	7.75	1.95	2.27
-5	(+23)	1891	477	554	217	1.48	10.88	8.74	2.20	2.56

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)	300	76	88	102	1.22	1.70	2.94	0.74	0.86	
-30 (-22)	452	114	133	125	1.25	2.56	3.59	0.91	1.05	
-25 (-13)	633	160	186	146	1.29	3.59	4.33	1.09	1.27	
-20 (- 4)	849	214	249	165	1.34	4.83	5.14	1.29	1.50	
-15 (+ 5)	1109	279	325	186	1.40	6.33	5.96	1.50	1.75	
-10 (+14)	1419	357	416	209	1.47	8.13	6.79	1.71	1.99	
-5 (+23)	1786	450	523	236	1.54	10.28	7.57	1.91	2.22	

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)	230	58	67	96	1.22	1.30	2.39	0.60	0.70	
-30 (-22)	383	97	112	122	1.25	2.17	3.11	0.78	0.91	
-25 (-13)	561	141	164	145	1.30	3.19	3.86	0.97	1.13	
-20 (- 4)	771	194	226	167	1.36	4.39	4.63	1.17	1.36	
-15 (+ 5)	1020	257	299	191	1.43	5.82	5.37	1.35	1.57	
-10 (+14)	1316	332	385	218	1.51	7.54	6.05	1.52	1.77	
-5 (+23)	1665	420	488	251	1.60	9.58	6.63	1.67	1.94	

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)	448	113	131	112	2.03	2.53	3.97	1.00	1.16	
-30 (-22)	609	154	179	134	2.13	3.45	4.57	1.15	1.34	
-25 (-13)	834	210	244	157	2.26	4.73	5.30	1.34	1.55	
-20 (- 4)	1117	281	327	183	2.41	6.36	6.12	1.54	1.79	
-15 (+ 5)	1455	367	426	209	2.59	8.31	6.98	1.76	2.05	
-10 (+14)	1845	465	541	236	2.77	10.57	7.86	1.98	2.30	
-5 (+23)	2281	575	668	262	2.96	13.12	8.71	2.19	2.55	

E - PERFORMANCE - CURVES

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)	374	94	110	109	2.01	2.11	3.46	0.87	1.01
-30	(-22)	527	133	154	132	2.10	2.99	4.02	1.01	1.18
-25	(-13)	746	188	219	158	2.25	4.24	4.69	1.18	1.37
-20	(- 4)	1026	259	301	188	2.43	5.84	5.43	1.37	1.59
-15	(+ 5)	1364	344	400	219	2.64	7.79	6.20	1.56	1.82
-10	(+14)	1755	442	514	253	2.88	10.06	6.96	1.75	2.04
-5	(+23)	2196	553	644	286	3.15	12.63	7.68	1.94	2.25

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)	326	82	96	103	1.97	1.85	3.15	0.79	0.92
-30	(-22)	454	114	133	127	2.07	2.57	3.63	0.91	1.06
-25	(-13)	649	163	190	155	2.22	3.68	4.20	1.06	1.23
-20	(- 4)	908	229	266	188	2.43	5.16	4.82	1.21	1.41
-15	(+ 5)	1227	309	359	225	2.69	7.00	5.46	1.37	1.60
-10	(+14)	1602	404	469	264	2.99	9.17	6.07	1.53	1.78
-5	(+23)	2029	511	594	306	3.32	11.67	6.63	1.67	1.94

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		