

embraco**COMPRESSOR TECHNICAL DATA****COMPRESSOR DEFINITION**

Designation	EG AS80HLR
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701313

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		
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 255 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	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/cm²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	6.36	[cm ³] (0.388 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.000	
3 Lubricant charge	230	[ml] (7.78 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10	[kg] (22.05 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	213516396/213516493	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	37.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	14.50/13.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[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	

UPDATE: 09JUL2013

513701313

embraco**COMPRESSOR TECHNICAL DATA****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]
645	163	189	123	1.02	3.66	5.24	1.32	1.54

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]
796	201	233	146		4.52	5.44	1.37	1.59

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°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)	370	93	108	104	0.94	2.09	3.57	0.90	1.05
-30	(-22)	502	127	147	106	0.95	2.85	4.87	1.23	1.43
-25	(-13)	656	165	192	111	0.97	3.73	6.04	1.52	1.77
-20	(- 4)	844	213	247	118	1.00	4.80	7.18	1.81	2.10
-15	(+ 5)	1075	271	315	127	1.03	6.14	8.39	2.11	2.46
-10	(+14)	1363	344	400	138	1.06	7.81	9.77	2.46	2.86

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)	326	82	96	90	0.94	1.85	3.64	0.92	1.07
-30	(-22)	470	118	138	99	0.96	2.66	4.73	1.19	1.39
-25	(-13)	629	158	184	111	0.99	3.57	5.67	1.43	1.66
-20	(- 4)	816	206	239	124	1.03	4.64	6.56	1.65	1.92
-15	(+ 5)	1042	263	305	139	1.07	5.95	7.49	1.89	2.20
-10	(+14)	1320	333	387	154	1.11	7.56	8.56	2.16	2.51



COMPRESSOR TECHNICAL DATA

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	268	68	79	81	0.93	1.52	3.28	0.83	0.96
-30	(-22)	422	106	124	98	0.97	2.39	4.26	1.07	1.25
-25	(-13)	587	148	172	116	1.00	3.34	5.06	1.27	1.48
-20	(- 4)	775	195	227	134	1.05	4.41	5.78	1.46	1.69
-15	(+ 5)	997	251	292	153	1.10	5.69	6.52	1.64	1.91
-10	(+14)	1265	319	371	171	1.15	7.25	7.37	1.86	2.16

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)	185	47	54	70	0.92	1.04	2.68	0.68	0.79
-30	(-22)	351	88	103	94	0.96	1.99	3.62	0.91	1.06
-25	(-13)	522	132	153	118	1.01	2.97	4.37	1.10	1.28
-20	(- 4)	712	179	209	142	1.07	4.05	5.01	1.26	1.47
-15	(+ 5)	930	234	273	165	1.13	5.31	5.65	1.42	1.66
-10	(+14)	1189	300	348	186	1.20	6.81	6.38	1.61	1.87

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°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)	459	116	135	95	0.80	2.60	4.85	1.22	1.42
-30	(-22)	646	163	189	111	0.85	3.66	5.83	1.47	1.71
-25	(-13)	866	218	254	128	0.90	4.92	6.79	1.71	1.99
-20	(- 4)	1125	284	330	145	0.96	6.41	7.78	1.96	2.28
-15	(+ 5)	1429	360	419	162	1.02	8.16	8.85	2.23	2.59
-10	(+14)	1780	449	522	177	1.08	10.20	10.08	2.54	2.95

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)	389	98	114	92	0.80	2.20	4.20	1.06	1.23
-30	(-22)	576	145	169	112	0.85	3.26	5.13	1.29	1.50
-25	(-13)	797	201	234	133	0.92	4.53	5.98	1.51	1.75
-20	(- 4)	1059	267	310	155	1.00	6.03	6.82	1.72	2.00
-15	(+ 5)	1364	344	400	177	1.08	7.79	7.70	1.94	2.25
-10	(+14)	1720	433	504	198	1.16	9.85	8.68	2.19	2.54

embraco**COMPRESSOR TECHNICAL DATA****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)	300	76	88	84	0.78	1.70	3.57	0.90	1.04
-30	(-22)	483	122	142	107	0.84	2.74	4.48	1.13	1.31
-25	(-13)	702	177	206	133	0.92	3.98	5.27	1.33	1.55
-20	(- 4)	960	242	281	160	1.01	5.47	6.00	1.51	1.76
-15	(+ 5)	1265	319	371	187	1.12	7.22	6.73	1.70	1.97
-10	(+14)	1619	408	474	215	1.23	9.27	7.51	1.89	2.20

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)	210	53	62	72	0.75	1.19	2.91	0.73	0.85
-30	(-22)	385	97	113	99	0.81	2.18	3.86	0.97	1.13
-25	(-13)	596	150	175	129	0.90	3.38	4.64	1.17	1.36
-20	(- 4)	848	214	248	160	1.02	4.82	5.31	1.34	1.56
-15	(+ 5)	1146	289	336	194	1.14	6.54	5.93	1.49	1.74
-10	(+14)	1494	377	438	228	1.28	8.56	6.56	1.65	1.92



COMPRESSOR TECHNICAL DATA

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +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	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		