COMPRESSOR DEFINITION

Designation	**EG ZS90HLC**
Nominal Voltage/Frequency	**220-240 V 50-60 Hz**
Engineering Number	**513701324**

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	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	198 to 255 V	198 to 255 V
8.2 LBP (43ºC Ambient temperature)	Static	198 to 255 V	198 to 255 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	7.15	[cm³] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
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)	10.58	[kg] (23.32 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/QPS2-A22MD3/QPS2-A22MD3 091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(330)/4(330)	[µF(VAC minimum)]
5 Motor protection	4TM283NFBYY-53	
6 Start winding resistance	23.40	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	11.31	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.00/9.30	[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	CE - IRAM - UKCA	

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]
758	191	222	133	0.78	4.31	5.70	1.44	1.67

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]
946	238	277	159	0.77	5.38	5.93	1.49	1.74

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz**		**ASHRAE32** **Static**			(Condensing temperature **35ºC (+95ºF))**					
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)**	434	109	127	97	0.50	2.45	4.60	1.16	1.35
-30	**(-22)**	577	145	169	81	0.61	3.27	6.92	1.74	2.03
-25	**(-13)**	754	190	221	91	0.69	4.28	7.99	2.01	2.34
-20	**(- 4)**	975	246	286	116	0.76	5.55	8.43	2.12	2.47
-15	**(+ 5)**	1249	315	366	144	0.81	7.13	8.90	2.24	2.61
-10	**(+14)**	1585	399	464	162	0.86	9.08	10.03	2.53	2.94

TEST CONDITIONS: **@220V50Hz**		**ASHRAE32** **Static**			(Condensing temperature **45ºC (+113ºF))**					
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)**	414	104	121	93	0.49	2.34	4.38	1.10	1.28
-30	**(-22)**	558	140	163	89	0.60	3.16	6.20	1.56	1.82
-25	**(-13)**	730	184	214	107	0.68	4.14	6.86	1.73	2.01
-20	**(- 4)**	941	237	276	137	0.75	5.36	7.02	1.77	2.06
-15	**(+ 5)**	1201	303	352	166	0.81	6.85	7.30	1.84	2.14
-10	**(+14)**	1518	382	445	183	0.86	8.70	8.35	2.10	2.45

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V50Hz **Static**

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)**	362	91	106	90	0.51	2.05	3.95	1.00	1.16
-30	**(-22)**	513	129	150	95	0.62	2.91	5.47	1.38	1.60
-25	**(-13)**	689	174	202	119	0.71	3.91	5.94	1.50	1.74
-20	**(- 4)**	898	226	263	151	0.79	5.11	6.01	1.51	1.76
-15	**(+ 5)**	1151	290	337	180	0.87	6.57	6.31	1.59	1.85
-10	**(+14)**	1457	367	427	193	0.94	8.35	7.48	1.89	2.19

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Static**

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)**	276	70	81	88	0.49	1.56	3.14	0.79	0.92
-30	**(-22)**	443	112	130	99	0.60	2.51	4.57	1.15	1.34
-25	**(-13)**	630	159	185	127	0.71	3.58	5.05	1.27	1.48
-20	**(- 4)**	846	213	248	160	0.81	4.81	5.22	1.32	1.53
-15	**(+ 5)**	1100	277	322	186	0.90	6.28	5.74	1.45	1.68
-10	**(+14)**	1402	353	411	194	1.00	8.03	7.25	1.83	2.12

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V60Hz **Static**

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)**	554	140	162	103	0.46	3.13	5.37	1.35	1.57
-30	**(-22)**	740	187	217	118	0.52	4.20	6.29	1.58	1.84
-25	**(-13)**	972	245	285	134	0.62	5.52	7.26	1.83	2.13
-20	**(- 4)**	1254	316	367	151	0.75	7.13	8.32	2.10	2.44
-15	**(+ 5)**	1590	401	466	168	0.86	9.08	9.48	2.39	2.78
-10	**(+14)**	1986	501	582	184	0.93	11.38	10.77	2.71	3.16

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V60Hz **Static**

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)**	487	123	143	102	0.48	2.75	4.78	1.20	1.40
-30	**(-22)**	682	172	200	121	0.55	3.87	5.61	1.41	1.64
-25	**(-13)**	921	232	270	143	0.66	5.23	6.45	1.63	1.89
-20	**(- 4)**	1209	305	354	165	0.81	6.88	7.32	1.84	2.14
-15	**(+ 5)**	1551	391	454	188	0.94	8.85	8.24	2.08	2.42
-10	**(+14)**	1951	492	572	211	1.04	11.18	9.25	2.33	2.71

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V60Hz **Static**

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)**	401	101	118	97	0.47	2.27	4.17	1.05	1.22
-30	**(-22)**	601	151	176	120	0.54	3.40	5.00	1.26	1.46
-25	**(-13)**	843	212	247	146	0.67	4.78	5.78	1.46	1.69
-20	**(- 4)**	1132	285	332	173	0.83	6.44	6.54	1.65	1.92
-15	**(+ 5)**	1474	371	432	201	0.99	8.42	7.31	1.84	2.14
-10	**(+14)**	1873	472	549	231	1.12	10.73	8.11	2.04	2.38

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V60Hz **Static**

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)**	299	75	88	87	0.43	1.69	3.43	0.86	1.01
-30	**(-22)**	497	125	146	114	0.50	2.82	4.32	1.09	1.27
-25	**(-13)**	737	186	216	144	0.63	4.18	5.12	1.29	1.50
-20	**(- 4)**	1023	258	300	176	0.80	5.82	5.85	1.47	1.71
-15	**(+ 5)**	1361	343	399	209	0.98	7.77	6.53	1.65	1.91
-10	**(+14)**	1755	442	514	244	1.14	10.05	7.20	1.81	2.11

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted		
3.2 DISCHARGE	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		