

COMPRESSOR DEFINITION

Designation	VEG Z8H
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513802037

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	230 / 53-150	[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	BPM		
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	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 V	187 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	1/4	[hp]
2 Displacement	7.95	[cm ³] (0.485 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	430	[ml] (14.54 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10.93	[kg] (24.10 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	230 V 53-150 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC3CO2456XX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC3CO2456XX	
6 Start winding resistance	6.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V1600RPM			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]
466	117	137	79	0.57	2.65	5.90	1.49	1.73

TEST CONDITIONS: @220V2000RPM			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]
575	145	168	95	0.66	3.27	6.05	1.52	1.77

TEST CONDITIONS: @220V2000RPM			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]
574	145	168	92	0.63	3.26	6.24	1.57	1.83

TEST CONDITIONS: @220V3000RPM			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]
878	221	257	143	0.97	4.99	6.14	1.55	1.80

TEST CONDITIONS: @220V3000RPM			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]
894	225	262	144	0.96	5.08	6.21	1.56	1.82

TEST CONDITIONS: @220V3600RPM			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]
1061	267	311	177	1.17	6.03	5.99	1.51	1.76

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V3600RPM			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]
1070	270	314	176	1.27	6.08	6.08	1.53	1.78

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1600RPM			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)	271	68	79	46	0.35	1.53	5.90	1.49	1.73
-30	(-22)	368	93	108	55	0.41	2.09	6.68	1.68	1.96
-25	(-13)	490	123	144	64	0.47	2.78	7.68	1.94	2.25
-20	(- 4)	638	161	187	72	0.53	3.63	8.88	2.24	2.60
-15	(+ 5)	813	205	238	79	0.58	4.64	10.26	2.59	3.01
-10	(+14)	1018	257	298	87	0.63	5.83	11.79	2.97	3.45

TEST CONDITIONS: @220V1600RPM			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)	254	64	74	47	0.36	1.44	5.37	1.35	1.57
-30	(-22)	344	87	101	59	0.44	1.95	5.89	1.48	1.73
-25	(-13)	461	116	135	70	0.51	2.62	6.62	1.67	1.94
-20	(- 4)	608	153	178	80	0.58	3.46	7.55	1.90	2.21
-15	(+ 5)	786	198	230	91	0.65	4.48	8.64	2.18	2.53
-10	(+14)	996	251	292	101	0.72	5.71	9.87	2.49	2.89

TEST CONDITIONS: @220V1600RPM			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)	227	57	67	48	0.37	1.28	4.69	1.18	1.37
-30	(-22)	309	78	90	62	0.45	1.75	5.07	1.28	1.49
-25	(-13)	421	106	123	75	0.54	2.39	5.65	1.42	1.66
-20	(- 4)	565	143	166	88	0.63	3.22	6.42	1.62	1.88
-15	(+ 5)	744	188	218	101	0.71	4.25	7.34	1.85	2.15
-10	(+14)	959	242	281	114	0.80	5.49	8.38	2.11	2.46

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2000RPM		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)	346	87	101	58	0.44	1.96	5.93	1.49	1.74	
-30 (-22)	454	114	133	68	0.50	2.57	6.68	1.68	1.96	
-25 (-13)	590	149	173	77	0.55	3.35	7.65	1.93	2.24	
-20 (- 4)	759	191	222	86	0.61	4.32	8.83	2.23	2.59	
-15 (+ 5)	966	243	283	95	0.67	5.51	10.19	2.57	2.99	
-10 (+14)	1216	306	356	104	0.73	6.97	11.72	2.95	3.43	

TEST CONDITIONS: @220V2000RPM		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)	323	81	95	60	0.45	1.83	5.39	1.36	1.58	
-30 (-22)	429	108	126	72	0.53	2.43	5.94	1.50	1.74	
-25 (-13)	561	141	164	84	0.60	3.19	6.69	1.69	1.96	
-20 (- 4)	725	183	212	95	0.67	4.13	7.63	1.92	2.24	
-15 (+ 5)	926	233	271	106	0.74	5.29	8.73	2.20	2.56	
-10 (+14)	1169	295	342	117	0.81	6.70	9.97	2.51	2.92	

TEST CONDITIONS: @220V2000RPM		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)	287	72	84	61	0.44	1.62	4.75	1.20	1.39	
-30 (-22)	393	99	115	76	0.54	2.23	5.19	1.31	1.52	
-25 (-13)	525	132	154	90	0.64	2.98	5.80	1.46	1.70	
-20 (- 4)	687	173	201	104	0.73	3.91	6.59	1.66	1.93	
-15 (+ 5)	884	223	259	118	0.82	5.05	7.51	1.89	2.20	
-10 (+14)	1123	283	329	131	0.91	6.43	8.55	2.16	2.51	

TEST CONDITIONS: @220V3000RPM		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)	513	129	150	90	0.65	2.90	5.71	1.44	1.67	
-30 (-22)	673	169	197	104	0.72	3.81	6.46	1.63	1.89	
-25 (-13)	874	220	256	119	0.81	4.96	7.35	1.85	2.15	
-20 (- 4)	1126	284	330	134	0.91	6.41	8.39	2.11	2.46	
-15 (+ 5)	1435	362	420	150	1.02	8.19	9.56	2.41	2.80	
-10 (+14)	1809	456	530	166	1.12	10.37	10.88	2.74	3.19	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		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)	480	121	141	93	0.65	2.71	5.13	1.29	1.50	
-30 (-22)	641	161	188	111	0.75	3.63	5.77	1.45	1.69	
-25 (-13)	840	212	246	129	0.86	4.77	6.52	1.64	1.91	
-20 (- 4)	1086	274	318	147	0.98	6.18	7.39	1.86	2.17	
-15 (+ 5)	1386	349	406	165	1.11	7.91	8.38	2.11	2.46	
-10 (+14)	1748	440	512	184	1.23	10.01	9.48	2.39	2.78	

TEST CONDITIONS: @220V3000RPM		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)	431	109	126	93	0.66	2.44	4.64	1.17	1.36	
-30 (-22)	598	151	175	115	0.78	3.39	5.20	1.31	1.52	
-25 (-13)	800	201	234	136	0.92	4.54	5.85	1.47	1.71	
-20 (- 4)	1044	263	306	158	1.06	5.94	6.60	1.66	1.93	
-15 (+ 5)	1339	337	392	180	1.21	7.64	7.43	1.87	2.18	
-10 (+14)	1693	427	496	203	1.35	9.70	8.36	2.11	2.45	

TEST CONDITIONS: @220V3600RPM		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)	628	158	184	112	0.78	3.55	5.60	1.41	1.64	
-30 (-22)	836	211	245	132	0.90	4.74	6.34	1.60	1.86	
-25 (-13)	1092	275	320	151	1.02	6.20	7.23	1.82	2.12	
-20 (- 4)	1404	354	411	170	1.14	7.99	8.26	2.08	2.42	
-15 (+ 5)	1780	449	522	190	1.26	10.16	9.36	2.36	2.74	
-10 (+14)	2229	562	653	212	1.40	12.77	10.49	2.64	3.07	

TEST CONDITIONS: @220V3600RPM		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)	574	145	168	113	0.79	3.25	5.05	1.27	1.48	
-30 (-22)	783	197	229	139	0.94	4.44	5.65	1.42	1.66	
-25 (-13)	1037	261	304	162	1.09	5.89	6.43	1.62	1.88	
-20 (- 4)	1345	339	394	184	1.23	7.66	7.32	1.85	2.15	
-15 (+ 5)	1716	432	503	207	1.37	9.80	8.31	2.09	2.43	
-10 (+14)	2157	544	632	231	1.52	12.36	9.33	2.35	2.73	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3600RPM		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)	480	121	141	107	0.75	2.72	4.51	1.14	1.32
-30	(-22)	698	176	205	139	0.94	3.96	5.00	1.26	1.47
-25	(-13)	959	242	281	168	1.12	5.44	5.67	1.43	1.66
-20	(- 4)	1272	320	373	196	1.30	7.24	6.47	1.63	1.90
-15	(+ 5)	1644	414	482	224	1.47	9.38	7.36	1.85	2.16
-10	(+14)	2085	525	611	252	1.64	11.94	8.29	2.09	2.43

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		