

COMPRESSOR DEFINITION

Designation	VEG Z6H
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513802005

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	98 to 140 V	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	98 to 140 V	98 to 140 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	6.36	[cm ³] (0.388 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.000	
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	VCC31156XXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC31156XXXXX	
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)	3.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	3.30	[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	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V1600RPM			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]	
350	88	103	58	0.81	1.99	6.09	1.53	1.78	

TEST CONDITIONS: @115V2000RPM			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]	
432	109	127	71	0.97	2.45	6.10	1.54	1.79	

TEST CONDITIONS: @115V3000RPM			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]	
685	173	201	113	1.46	3.89	6.08	1.53	1.78	

TEST CONDITIONS: @115V4500RPM			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]	
928	234	272	163	2.06	5.27	5.70	1.44	1.67	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1600RPM		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]
-35	(-31)	214	54	63	36	0.47	1.21	5.88	1.48	1.72
-30	(-22)	294	74	86	44	0.58	1.67	6.68	1.68	1.96
-25	(-13)	382	96	112	51	0.68	2.17	7.54	1.90	2.21
-20	(- 4)	483	122	142	57	0.76	2.75	8.52	2.15	2.50
-15	(+ 5)	602	152	176	62	0.83	3.44	9.70	2.45	2.84
-10	(+14)	744	188	218	67	0.90	4.26	11.15	2.81	3.27

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V1600RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	189	48	55	36	0.48	1.07	5.26	1.32	1.54	
-30 (-22)	267	67	78	44	0.58	1.51	6.01	1.51	1.76	
-25 (-13)	353	89	104	52	0.69	2.01	6.73	1.69	1.97	
-20 (- 4)	454	114	133	60	0.80	2.58	7.48	1.88	2.19	
-15 (+ 5)	573	145	168	68	0.91	3.27	8.33	2.10	2.44	
-10 (+14)	718	181	210	76	1.02	4.11	9.36	2.36	2.74	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V1600RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	154	39	45	37	0.52	0.87	4.18	1.05	1.23	
-30 (-22)	228	57	67	45	0.61	1.29	5.04	1.27	1.48	
-25 (-13)	311	78	91	54	0.71	1.77	5.76	1.45	1.69	
-20 (- 4)	410	103	120	64	0.83	2.33	6.43	1.62	1.88	
-15 (+ 5)	529	133	155	74	0.97	3.02	7.11	1.79	2.08	
-10 (+14)	674	170	197	85	1.13	3.86	7.86	1.98	2.30	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V2000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	268	68	79	46	0.61	1.52	5.76	1.45	1.69	
-30 (-22)	360	91	106	55	0.72	2.04	6.59	1.66	1.93	
-25 (-13)	463	117	136	62	0.82	2.63	7.52	1.89	2.20	
-20 (- 4)	587	148	172	69	0.90	3.34	8.58	2.16	2.51	
-15 (+ 5)	742	187	218	75	0.98	4.24	9.84	2.48	2.88	
-10 (+14)	938	236	275	82	1.07	5.38	11.35	2.86	3.33	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V2000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	247	62	72	46	0.60	1.40	5.34	1.35	1.56	
-30 (-22)	340	86	100	56	0.73	1.93	6.06	1.53	1.78	
-25 (-13)	442	111	130	65	0.85	2.51	6.82	1.72	2.00	
-20 (- 4)	563	142	165	73	0.97	3.21	7.66	1.93	2.24	
-15 (+ 5)	714	180	209	82	1.08	4.07	8.64	2.18	2.53	
-10 (+14)	903	227	265	92	1.20	5.17	9.81	2.47	2.87	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V2000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	220	55	64	46	0.61	1.24	4.75	1.20	1.39	
-30 (-22)	311	78	91	57	0.75	1.76	5.44	1.37	1.60	
-25 (-13)	409	103	120	67	0.89	2.32	6.11	1.54	1.79	
-20 (- 4)	523	132	153	77	1.02	2.98	6.81	1.72	2.00	
-15 (+ 5)	665	168	195	88	1.16	3.80	7.58	1.91	2.22	
-10 (+14)	843	213	247	99	1.31	4.83	8.49	2.14	2.49	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V3000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	404	102	118	73	0.95	2.29	5.56	1.40	1.63	
-30 (-22)	565	142	166	86	1.11	3.20	6.55	1.65	1.92	
-25 (-13)	717	181	210	96	1.25	4.07	7.51	1.89	2.20	
-20 (- 4)	887	223	260	104	1.37	5.05	8.51	2.15	2.49	
-15 (+ 5)	1103	278	323	114	1.49	6.30	9.68	2.44	2.84	
-10 (+14)	1393	351	408	125	1.61	7.99	11.10	2.80	3.25	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V3000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	361	91	106	76	0.96	2.04	4.78	1.20	1.40	
-30 (-22)	519	131	152	90	1.14	2.94	5.66	1.43	1.66	
-25 (-13)	667	168	195	103	1.31	3.78	6.47	1.63	1.90	
-20 (- 4)	832	210	244	115	1.46	4.74	7.29	1.84	2.14	
-15 (+ 5)	1044	263	306	127	1.63	5.96	8.24	2.08	2.41	
-10 (+14)	1329	335	389	141	1.80	7.62	9.40	2.37	2.75	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V3000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	313	79	92	73	0.93	1.77	4.28	1.08	1.25	
-30 (-22)	469	118	137	90	1.13	2.66	5.11	1.29	1.50	
-25 (-13)	616	155	180	106	1.33	3.49	5.83	1.47	1.71	
-20 (- 4)	780	196	228	120	1.53	4.44	6.52	1.64	1.91	
-15 (+ 5)	989	249	290	136	1.74	5.65	7.31	1.84	2.14	
-10 (+14)	1272	321	373	153	1.96	7.29	8.27	2.09	2.42	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4500RPM		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)	583	147	171	111	1.39	3.30	5.25	1.32	1.54	
-30 (-22)	817	206	240	131	1.63	4.63	6.25	1.58	1.83	
-25 (-13)	1083	273	317	153	1.89	6.15	7.09	1.79	2.08	
-20 (- 4)	1369	345	401	173	2.12	7.79	7.92	2.00	2.32	
-15 (+ 5)	1662	419	487	187	2.28	9.49	8.90	2.24	2.61	
-10 (+14)	1951	492	572	193	2.32	11.18	10.20	2.57	2.99	

TEST CONDITIONS: @115V4500RPM		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)	469	118	138	109	1.41	2.65	4.33	1.09	1.27	
-30 (-22)	698	176	205	132	1.69	3.96	5.30	1.34	1.55	
-25 (-13)	952	240	279	155	1.97	5.40	6.10	1.54	1.79	
-20 (- 4)	1218	307	357	176	2.21	6.93	6.88	1.73	2.02	
-15 (+ 5)	1486	374	435	190	2.37	8.48	7.80	1.97	2.29	
-10 (+14)	1742	439	510	194	2.40	9.98	9.03	2.28	2.65	

TEST CONDITIONS: @115V4500RPM		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)	434	109	127	108	1.37	2.46	4.01	1.01	1.17	
-30 (-22)	635	160	186	132	1.67	3.60	4.85	1.22	1.42	
-25 (-13)	854	215	250	155	1.96	4.85	5.51	1.39	1.62	
-20 (- 4)	1079	272	316	175	2.20	6.14	6.15	1.55	1.80	
-15 (+ 5)	1299	327	380	187	2.35	7.41	6.92	1.74	2.03	
-10 (+14)	1500	378	440	189	2.35	8.59	7.99	2.01	2.34	

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	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		