

COMPRESSOR DEFINITION

Designation	VEG Z8H
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513802020

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	VCC32456XXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC32456XXXXX	
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	CCC - 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]	
472	119	138	77	0.59	2.68	6.12	1.54	1.79	

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]	
579	146	170	93	0.71	3.29	6.23	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]	
895	226	262	144	1.04	5.09	6.20	1.56	1.82	

TEST CONDITIONS: @220V4500RPM			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]	
1094	276	321	179	1.27	6.22	6.13	1.54	1.80	

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]
-35	(-31)	264	67	77	47	0.35	1.49	5.63	1.42	1.65
-30	(-22)	368	93	108	55	0.40	2.09	6.69	1.68	1.96
-25	(-13)	487	123	143	63	0.46	2.77	7.70	1.94	2.26
-20	(- 4)	625	158	183	72	0.53	3.56	8.76	2.21	2.57
-15	(+ 5)	785	198	230	80	0.59	4.48	9.91	2.50	2.90
-10	(+14)	971	245	285	87	0.64	5.57	11.24	2.83	3.29

E - PERFORMANCE - CURVES

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)	251	63	74	49	0.38	1.42	5.16	1.30	1.51
-30	(-22)	345	87	101	58	0.45	1.96	5.97	1.50	1.75
-25	(-13)	459	116	134	68	0.53	2.60	6.73	1.70	1.97
-20	(- 4)	596	150	175	79	0.62	3.39	7.53	1.90	2.21
-15	(+ 5)	760	192	223	90	0.70	4.34	8.43	2.12	2.47
-10	(+14)	956	241	280	100	0.78	5.48	9.51	2.40	2.79

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)	244	61	71	51	0.40	1.38	4.82	1.21	1.41
-30	(-22)	325	82	95	61	0.48	1.84	5.39	1.36	1.58
-25	(-13)	431	109	126	73	0.58	2.45	5.93	1.49	1.74
-20	(- 4)	565	142	166	87	0.69	3.22	6.49	1.64	1.90
-15	(+ 5)	731	184	214	101	0.80	4.18	7.16	1.81	2.10
-10	(+14)	933	235	273	116	0.89	5.35	8.01	2.02	2.35

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)	342	86	100	58	0.54	1.94	5.91	1.49	1.73
-30	(-22)	445	112	130	65	0.53	2.52	6.78	1.71	1.99
-25	(-13)	579	146	170	75	0.56	3.29	7.73	1.95	2.26
-20	(- 4)	745	188	218	85	0.62	4.24	8.77	2.21	2.57
-15	(+ 5)	944	238	276	95	0.69	5.39	9.95	2.51	2.91
-10	(+14)	1175	296	344	105	0.75	6.73	11.28	2.84	3.31

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)	305	77	89	59	0.48	1.72	5.20	1.31	1.52
-30	(-22)	414	104	121	70	0.54	2.35	5.96	1.50	1.75
-25	(-13)	553	139	162	82	0.62	3.14	6.77	1.71	1.98
-20	(- 4)	721	182	211	94	0.72	4.11	7.65	1.93	2.24
-15	(+ 5)	921	232	270	107	0.82	5.26	8.63	2.18	2.53
-10	(+14)	1151	290	337	118	0.90	6.60	9.75	2.46	2.86

E - PERFORMANCE - CURVES

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)	285	72	84	59	0.47	1.62	4.78	1.20	1.40	
-30 (-22)	396	100	116	73	0.57	2.24	5.39	1.36	1.58	
-25 (-13)	534	135	156	89	0.69	3.03	6.03	1.52	1.77	
-20 (- 4)	700	176	205	104	0.81	3.98	6.71	1.69	1.97	
-15 (+ 5)	894	225	262	120	0.93	5.10	7.47	1.88	2.19	
-10 (+14)	1118	282	328	134	1.02	6.40	8.34	2.10	2.44	

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)	517	130	152	92	0.69	2.93	5.55	1.40	1.63	
-30 (-22)	641	162	188	103	0.76	3.63	6.32	1.59	1.85	
-25 (-13)	834	210	244	117	0.86	4.73	7.17	1.81	2.10	
-20 (- 4)	1086	274	318	133	0.96	6.18	8.16	2.06	2.39	
-15 (+ 5)	1386	349	406	148	1.05	7.91	9.33	2.35	2.73	
-10 (+14)	1724	435	505	161	1.13	9.88	10.72	2.70	3.14	

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)	483	122	142	93	0.68	2.73	5.23	1.32	1.53	
-30 (-22)	651	164	191	110	0.81	3.69	5.95	1.50	1.74	
-25 (-13)	861	217	252	128	0.94	4.89	6.71	1.69	1.97	
-20 (- 4)	1103	278	323	145	1.06	6.28	7.56	1.91	2.22	
-15 (+ 5)	1367	344	401	160	1.16	7.80	8.55	2.15	2.50	
-10 (+14)	1642	414	481	170	1.23	9.41	9.71	2.45	2.84	

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)	462	117	135	97	0.73	2.61	4.80	1.21	1.41	
-30 (-22)	641	162	188	118	0.89	3.64	5.42	1.37	1.59	
-25 (-13)	836	211	245	137	1.03	4.75	6.04	1.52	1.77	
-20 (- 4)	1036	261	304	154	1.15	5.90	6.70	1.69	1.96	
-15 (+ 5)	1231	310	361	166	1.23	7.03	7.44	1.88	2.18	
-10 (+14)	1411	356	413	171	1.26	8.08	8.32	2.10	2.44	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4500RPM		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)	740	187	217	144	1.05	4.19	5.13	1.29	1.50	
-30 (-22)	1032	260	302	169	1.20	5.85	6.08	1.53	1.78	
-25 (-13)	1268	320	372	180	1.27	7.20	7.08	1.78	2.07	
-20 (- 4)	1471	371	431	182	1.27	8.37	8.12	2.05	2.38	
-15 (+ 5)	1662	419	487	179	1.25	9.49	9.25	2.33	2.71	
-10 (+14)	1864	470	546	176	1.24	10.68	10.48	2.64	3.07	

TEST CONDITIONS: @220V4500RPM		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)	653	165	191	141	1.02	3.69	4.64	1.17	1.36	
-30 (-22)	955	241	280	170	1.23	5.41	5.58	1.41	1.63	
-25 (-13)	1185	299	347	182	1.32	6.73	6.52	1.64	1.91	
-20 (- 4)	1365	344	400	184	1.34	7.77	7.49	1.89	2.20	
-15 (+ 5)	1516	382	444	178	1.31	8.66	8.53	2.15	2.50	
-10 (+14)	1663	419	487	171	1.26	9.53	9.64	2.43	2.82	

TEST CONDITIONS: @220V4500RPM		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)	595	150	174	134	0.98	3.36	4.44	1.12	1.30	
-30 (-22)	880	222	258	167	1.22	4.99	5.16	1.30	1.51	
-25 (-13)	1077	271	316	182	1.33	6.12	5.87	1.48	1.72	
-20 (- 4)	1207	304	354	184	1.35	6.87	6.59	1.66	1.93	
-15 (+ 5)	1292	326	379	177	1.29	7.37	7.34	1.85	2.15	
-10 (+14)	1356	342	397	166	1.20	7.76	8.15	2.05	2.39	

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
2 Tray holder	Yes		
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	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	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 60° up / 40° + 35°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		