

COMPRESSOR DEFINITION

Designation	VEG C8H
Nominal Voltage/Frequency	230 V 46-133 Hz
Engineering Number	513804009

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	230 / 46-133	[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	85 to 140 V	85 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	85 to 140 V	85 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	8.03	[cm ³] (0.490 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	20.200	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10.28	[kg] (22.66 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 46-133 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC3 1156 XXXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC31156XXXXX	
6 Start winding resistance	12.03	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.03	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	3.30/3.30/3.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	3.30/3.30/3.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	3.30/3.30/3.30	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V1400RPM			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]
427	108	125	72	1.14	2.43	5.91	1.49	1.73

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]
447	113	131	75	1.17	2.54	5.96	1.50	1.75

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]
567	143	166	97	1.43	3.22	5.86	1.48	1.72

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]
849	214	249	145	2.04	4.82	5.84	1.47	1.71

TEST CONDITIONS: @115V4000RPM			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]
1051	265	308	184	2.52	5.97	5.71	1.44	1.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1400RPM		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)	235	59	69	40	0.60	1.33	5.89	1.48	1.73
-30	(-22)	320	81	94	48	0.80	1.82	6.72	1.69	1.97
-25	(-13)	425	107	125	56	0.96	2.41	7.59	1.91	2.23
-20	(- 4)	556	140	163	65	1.10	3.16	8.58	2.16	2.51
-15	(+ 5)	718	181	210	74	1.23	4.10	9.72	2.45	2.85
-10	(+14)	918	231	269	83	1.35	5.26	11.07	2.79	3.24

TEST CONDITIONS: @115V1400RPM		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]
-35	(-31)	216	54	63	42	0.61	1.22	5.20	1.31	1.52
-30	(-22)	300	76	88	51	0.84	1.70	5.89	1.48	1.73
-25	(-13)	403	102	118	61	1.04	2.29	6.58	1.66	1.93
-20	(- 4)	532	134	156	73	1.22	3.02	7.32	1.84	2.14
-15	(+ 5)	692	174	203	85	1.39	3.95	8.16	2.06	2.39
-10	(+14)	891	225	261	97	1.55	5.10	9.16	2.31	2.68

TEST CONDITIONS: @115V1400RPM		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]
-35	(-31)	188	47	55	42	0.62	1.06	4.47	1.13	1.31
-30	(-22)	275	69	80	53	0.89	1.56	5.13	1.29	1.50
-25	(-13)	381	96	112	67	1.13	2.16	5.74	1.45	1.68
-20	(- 4)	513	129	150	81	1.35	2.92	6.34	1.60	1.86
-15	(+ 5)	677	171	198	97	1.56	3.86	7.00	1.76	2.05
-10	(+14)	879	222	258	113	1.77	5.04	7.76	1.95	2.27

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)	271	68	79	45	0.78	1.53	5.98	1.51	1.75
-30	(-22)	362	91	106	54	0.92	2.05	6.74	1.70	1.98
-25	(-13)	473	119	139	62	1.06	2.68	7.59	1.91	2.22
-20	(- 4)	608	153	178	71	1.20	3.46	8.57	2.16	2.51
-15	(+ 5)	771	194	226	80	1.32	4.40	9.71	2.45	2.85
-10	(+14)	969	244	284	88	1.43	5.55	11.08	2.79	3.25

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	244	61	72	47	0.80	1.38	5.24	1.32	1.54	
-30 (-22)	335	85	98	57	0.97	1.90	5.91	1.49	1.73	
-25 (-13)	445	112	130	67	1.14	2.53	6.59	1.66	1.93	
-20 (- 4)	578	146	169	79	1.30	3.29	7.33	1.85	2.15	
-15 (+ 5)	738	186	216	90	1.46	4.21	8.18	2.06	2.40	
-10 (+14)	930	234	273	101	1.61	5.33	9.19	2.31	2.69	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	212	53	62	47	0.83	1.20	4.49	1.13	1.32	
-30 (-22)	304	77	89	59	1.02	1.72	5.15	1.30	1.51	
-25 (-13)	413	104	121	72	1.21	2.35	5.76	1.45	1.69	
-20 (- 4)	544	137	159	86	1.41	3.09	6.36	1.60	1.86	
-15 (+ 5)	701	177	205	100	1.60	4.00	7.01	1.77	2.06	
-10 (+14)	889	224	261	114	1.79	5.09	7.75	1.95	2.27	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	338	85	99	58	0.87	1.91	5.85	1.47	1.71	
-30 (-22)	438	110	128	67	1.03	2.48	6.55	1.65	1.92	
-25 (-13)	572	144	168	78	1.21	3.25	7.38	1.86	2.16	
-20 (- 4)	744	187	218	89	1.40	4.23	8.36	2.11	2.45	
-15 (+ 5)	958	241	281	101	1.59	5.47	9.51	2.40	2.79	
-10 (+14)	1219	307	357	112	1.76	6.98	10.88	2.74	3.19	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	309	78	91	59	0.99	1.75	5.23	1.32	1.53	
-30 (-22)	418	105	123	72	1.16	2.37	5.82	1.47	1.70	
-25 (-13)	554	140	162	85	1.36	3.15	6.48	1.63	1.90	
-20 (- 4)	721	182	211	99	1.56	4.10	7.24	1.82	2.12	
-15 (+ 5)	922	232	270	113	1.76	5.26	8.14	2.05	2.38	
-10 (+14)	1161	293	340	126	1.94	6.65	9.20	2.32	2.69	

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)	281	71	82	63	1.06	1.59	4.47	1.13	1.31	
-30 (-22)	392	99	115	77	1.24	2.22	5.04	1.27	1.48	
-25 (-13)	522	132	153	93	1.45	2.96	5.62	1.42	1.65	
-20 (- 4)	675	170	198	108	1.67	3.84	6.26	1.58	1.84	
-15 (+ 5)	855	215	250	123	1.88	4.88	6.99	1.76	2.05	
-10 (+14)	1065	268	312	136	2.07	6.10	7.83	1.97	2.30	

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)	485	122	142	85	1.26	2.74	5.70	1.44	1.67	
-30 (-22)	644	162	189	100	1.42	3.65	6.46	1.63	1.89	
-25 (-13)	854	215	250	118	1.67	4.85	7.27	1.83	2.13	
-20 (- 4)	1116	281	327	136	1.97	6.35	8.20	2.07	2.40	
-15 (+ 5)	1432	361	420	153	2.26	8.18	9.32	2.35	2.73	
-10 (+14)	1802	454	528	169	2.50	10.32	10.70	2.70	3.14	

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)	461	116	135	95	1.45	2.61	4.85	1.22	1.42	
-30 (-22)	617	155	181	110	1.58	3.50	5.60	1.41	1.64	
-25 (-13)	809	204	237	129	1.82	4.59	6.30	1.59	1.85	
-20 (- 4)	1038	262	304	148	2.11	5.91	7.03	1.77	2.06	
-15 (+ 5)	1306	329	383	166	2.40	7.46	7.87	1.98	2.31	
-10 (+14)	1614	407	473	182	2.63	9.25	8.88	2.24	2.60	

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)	408	103	120	96	1.55	2.31	4.26	1.07	1.25	
-30 (-22)	580	146	170	114	1.69	3.29	5.07	1.28	1.49	
-25 (-13)	773	195	227	134	1.94	4.39	5.76	1.45	1.69	
-20 (- 4)	989	249	290	155	2.25	5.63	6.38	1.61	1.87	
-15 (+ 5)	1229	310	360	175	2.56	7.01	7.03	1.77	2.06	
-10 (+14)	1493	376	438	193	2.83	8.55	7.76	1.95	2.27	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4000RPM		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)	669	169	196	125	1.79	3.79	5.36	1.35	1.57	
-30 (-22)	889	224	261	146	2.08	5.04	6.11	1.54	1.79	
-25 (-13)	1143	288	335	164	2.41	6.49	6.96	1.75	2.04	
-20 (- 4)	1432	361	420	179	2.73	8.15	7.99	2.01	2.34	
-15 (+ 5)	1757	443	515	190	2.99	10.03	9.24	2.33	2.71	
-10 (+14)	2120	534	621	197	3.17	12.15	10.78	2.72	3.16	

TEST CONDITIONS: @115V4000RPM		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)	581	146	170	131	1.92	3.29	4.43	1.12	1.30	
-30 (-22)	809	204	237	153	2.20	4.59	5.30	1.33	1.55	
-25 (-13)	1057	266	310	171	2.52	6.00	6.16	1.55	1.80	
-20 (- 4)	1326	334	389	187	2.83	7.55	7.08	1.78	2.07	
-15 (+ 5)	1618	408	474	199	3.09	9.24	8.11	2.04	2.38	
-10 (+14)	1934	487	567	207	3.25	11.08	9.32	2.35	2.73	

TEST CONDITIONS: @115V4000RPM		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)	499	126	146	134	1.98	2.82	3.73	0.94	1.09	
-30 (-22)	731	184	214	154	2.28	4.14	4.73	1.19	1.38	
-25 (-13)	968	244	284	173	2.61	5.49	5.61	1.41	1.64	
-20 (- 4)	1212	305	355	189	2.93	6.90	6.44	1.62	1.89	
-15 (+ 5)	1465	369	429	202	3.20	8.36	7.28	1.83	2.13	
-10 (+14)	1729	436	507	212	3.37	9.90	8.17	2.06	2.39	

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		