

COMPRESSOR DEFINITION

Designation	VEG D8H
Nominal Voltage/Frequency	230 V 46-133 Hz
Engineering Number	513804005

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)	10.74	[kg] (23.68 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 X2A52/VCC3 1156 XXXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC31156XXXXX	
6 Start winding resistance	7.69	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.69	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (46/133 Hz)	3.30/3.30/3.30/3.30/3.3 [A] - Measured according to UL 984	
9 FLA - Full load amperage L/MBP (46/133 Hz)	3.30/3.30/3.30/3.30/3.3 [A] - Measured according to UL 984	
10 FLA - Full Load Amperage HBP (46/133 Hz)	3.30/3.30/3.30/3.30/3.3 [A] - Measured according to UL 984	
11 Approval boards certification	CE - NOM - 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]
416	105	122	68	1.05	2.36	6.11	1.54	1.79

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]
437	110	128	71	1.08	2.48	6.18	1.56	1.81

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]
553	139	162	90	1.29	3.14	6.18	1.56	1.81

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]
836	211	245	138	1.84	4.75	6.07	1.53	1.78

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]
1086	274	318	186	2.49	6.17	5.83	1.47	1.71

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]	[W/W]
-35 (-31)	228	57	67	38	0.53	1.29	5.99	1.51	1.75	
-30 (-22)	299	75	87	45	0.69	1.69	6.74	1.70	1.97	
-25 (-13)	409	103	120	53	0.85	2.32	7.69	1.94	2.25	
-20 (- 4)	553	139	162	62	0.99	3.15	8.84	2.23	2.59	
-15 (+ 5)	724	182	212	71	1.10	4.13	10.18	2.56	2.98	
-10 (+14)	917	231	269	78	1.17	5.25	11.70	2.95	3.43	

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]	[W/W]
-35 (-31)	209	53	61	39	0.61	1.18	5.28	1.33	1.55	
-30 (-22)	289	73	85	49	0.77	1.64	5.97	1.50	1.75	
-25 (-13)	396	100	116	59	0.92	2.25	6.78	1.71	1.99	
-20 (- 4)	523	132	153	68	1.06	2.97	7.70	1.94	2.26	
-15 (+ 5)	664	167	195	76	1.17	3.79	8.73	2.20	2.56	
-10 (+14)	813	205	238	83	1.24	4.66	9.87	2.49	2.89	

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]	[W/W]
-35 (-31)	171	43	50	40	0.66	0.97	4.31	1.09	1.26	
-30 (-22)	268	68	78	53	0.81	1.52	5.00	1.26	1.47	
-25 (-13)	378	95	111	65	0.96	2.14	5.74	1.45	1.68	
-20 (- 4)	494	125	145	76	1.09	2.81	6.52	1.64	1.91	
-15 (+ 5)	612	154	179	84	1.20	3.49	7.32	1.84	2.15	
-10 (+14)	725	183	212	90	1.27	4.15	8.15	2.05	2.39	

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]	[W/W]
-35 (-31)	254	64	74	42	0.62	1.44	6.05	1.52	1.77	
-30 (-22)	354	89	104	52	0.80	2.01	6.83	1.72	2.00	
-25 (-13)	472	119	138	61	0.95	2.68	7.71	1.94	2.26	
-20 (- 4)	611	154	179	70	1.06	3.48	8.75	2.20	2.56	
-15 (+ 5)	773	195	227	77	1.14	4.41	10.02	2.53	2.94	
-10 (+14)	962	242	282	83	1.20	5.51	11.60	2.92	3.40	

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)	237	60	70	45	0.74	1.34	5.27	1.33	1.54	
-30 (-22)	328	83	96	54	0.90	1.86	6.06	1.53	1.77	
-25 (-13)	439	111	129	64	1.04	2.49	6.82	1.72	2.00	
-20 (- 4)	571	144	167	75	1.16	3.25	7.62	1.92	2.23	
-15 (+ 5)	728	183	213	85	1.27	4.16	8.54	2.15	2.50	
-10 (+14)	913	230	268	95	1.36	5.23	9.64	2.43	2.82	

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)	192	48	56	48	0.76	1.09	3.96	1.00	1.16	
-30 (-22)	284	72	83	57	0.91	1.61	4.98	1.25	1.46	
-25 (-13)	396	100	116	68	1.05	2.25	5.85	1.47	1.71	
-20 (- 4)	532	134	156	80	1.19	3.03	6.64	1.67	1.95	
-15 (+ 5)	694	175	203	93	1.32	3.96	7.42	1.87	2.17	
-10 (+14)	886	223	260	107	1.46	5.07	8.26	2.08	2.42	

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)	328	83	96	56	0.88	1.86	5.84	1.47	1.71	
-30 (-22)	435	110	128	64	1.00	2.47	6.80	1.71	1.99	
-25 (-13)	570	144	167	74	1.13	3.24	7.73	1.95	2.27	
-20 (- 4)	738	186	216	84	1.26	4.20	8.74	2.20	2.56	
-15 (+ 5)	945	238	277	96	1.37	5.40	9.90	2.49	2.90	
-10 (+14)	1198	302	351	106	1.46	6.86	11.29	2.85	3.31	

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)	300	76	88	58	0.95	1.70	5.21	1.31	1.53	
-30 (-22)	408	103	120	67	1.07	2.31	6.05	1.52	1.77	
-25 (-13)	540	136	158	79	1.21	3.07	6.81	1.72	2.00	
-20 (- 4)	702	177	206	93	1.36	3.99	7.59	1.91	2.22	
-15 (+ 5)	899	227	263	106	1.51	5.13	8.46	2.13	2.48	
-10 (+14)	1138	287	334	119	1.64	6.52	9.52	2.40	2.79	

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)	260	65	76	60	0.97	1.47	4.33	1.09	1.27	
-30 (-22)	372	94	109	72	1.09	2.11	5.18	1.31	1.52	
-25 (-13)	505	127	148	86	1.24	2.87	5.90	1.49	1.73	
-20 (- 4)	664	167	195	101	1.41	3.78	6.58	1.66	1.93	
-15 (+ 5)	856	216	251	117	1.59	4.88	7.30	1.84	2.14	
-10 (+14)	1085	273	318	133	1.76	6.22	8.15	2.05	2.39	

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)	496	125	145	86	1.08	2.81	5.77	1.45	1.69	
-30 (-22)	657	166	193	99	1.32	3.72	6.60	1.66	1.93	
-25 (-13)	848	214	248	115	1.60	4.81	7.39	1.86	2.17	
-20 (- 4)	1086	274	318	132	1.88	6.18	8.25	2.08	2.42	
-15 (+ 5)	1390	350	407	149	2.12	7.94	9.30	2.34	2.72	
-10 (+14)	1776	448	520	167	2.30	10.18	10.64	2.68	3.12	

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)	450	113	132	90	1.23	2.55	5.02	1.26	1.47	
-30 (-22)	617	155	181	105	1.43	3.50	5.87	1.48	1.72	
-25 (-13)	807	203	236	123	1.69	4.58	6.59	1.66	1.93	
-20 (- 4)	1039	262	304	143	1.98	5.91	7.28	1.84	2.13	
-15 (+ 5)	1329	335	389	165	2.26	7.59	8.07	2.03	2.36	
-10 (+14)	1696	427	497	187	2.51	9.72	9.05	2.28	2.65	

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)	387	98	113	91	1.28	2.19	4.24	1.07	1.24	
-30 (-22)	574	145	168	107	1.45	3.25	5.31	1.34	1.56	
-25 (-13)	778	196	228	126	1.70	4.42	6.15	1.55	1.80	
-20 (- 4)	1018	256	298	149	2.01	5.79	6.87	1.73	2.01	
-15 (+ 5)	1310	330	384	173	2.35	7.48	7.58	1.91	2.22	
-10 (+14)	1672	421	490	199	2.68	9.58	8.40	2.12	2.46	

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)	660	166	193	123	1.45	3.73	5.37	1.35	1.57	
-30 (-22)	875	221	256	145	1.94	4.96	6.03	1.52	1.77	
-25 (-13)	1142	288	335	167	2.28	6.48	6.86	1.73	2.01	
-20 (- 4)	1474	371	432	187	2.52	8.39	7.87	1.98	2.31	
-15 (+ 5)	1886	475	553	207	2.71	10.77	9.12	2.30	2.67	
-10 (+14)	2392	603	701	225	2.90	13.71	10.64	2.68	3.12	

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)	562	142	165	126	1.63	3.18	4.49	1.13	1.32	
-30 (-22)	791	199	232	148	2.07	4.48	5.32	1.34	1.56	
-25 (-13)	1065	268	312	172	2.39	6.05	6.19	1.56	1.81	
-20 (- 4)	1400	353	410	196	2.65	7.97	7.11	1.79	2.08	
-15 (+ 5)	1809	456	530	222	2.89	10.33	8.14	2.05	2.39	
-10 (+14)	2306	581	676	247	3.18	13.21	9.30	2.34	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)	432	109	127	129	1.69	2.44	3.33	0.84	0.98	
-30 (-22)	679	171	199	152	2.09	3.85	4.45	1.12	1.30	
-25 (-13)	966	243	283	177	2.41	5.49	5.46	1.38	1.60	
-20 (- 4)	1308	330	383	205	2.70	7.44	6.41	1.61	1.88	
-15 (+ 5)	1718	433	503	235	3.02	9.81	7.33	1.85	2.15	
-10 (+14)	2211	557	648	268	3.42	12.67	8.25	2.08	2.42	

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +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		