

COMPRESSOR DEFINITION

Designation	VEG Y8H
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	PROT-SAMS-01

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	103 to 140 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	103 to 140 V	103 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	1/4	[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	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	TUV - 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]
450	113	132	76	1.00	2.56	5.94	1.50	1.74

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]
555	140	163	92	1.22	3.15	6.04	1.52	1.77

TEST CONDITIONS: @115V2250RPM			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]
655	165	192	108	1.41	3.72	6.05	1.52	1.77

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]
870	219	255	149	1.88	4.94	5.84	1.47	1.71

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]
1090	275	319	197	2.44	6.19	5.53	1.39	1.62

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)	257	65	75	47	0.65	1.45	5.45	1.37	1.60
-30	(-22)	378	95	111	56	0.76	2.14	6.62	1.67	1.94
-25	(-13)	497	125	146	64	0.86	2.82	7.70	1.94	2.26
-20	(- 4)	627	158	184	72	0.96	3.57	8.76	2.21	2.57
-15	(+ 5)	779	196	228	79	1.05	4.45	9.89	2.49	2.90
-10	(+14)	966	243	283	86	1.15	5.53	11.19	2.82	3.28

TEST CONDITIONS: @115V1600RPM		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)	237	60	69	48	0.70	1.34	4.99	1.26	1.46
-30	(-22)	347	88	102	58	0.80	1.97	5.93	1.49	1.74
-25	(-13)	460	116	135	68	0.90	2.61	6.76	1.70	1.98
-20	(- 4)	587	148	172	78	1.01	3.34	7.58	1.91	2.22
-15	(+ 5)	740	186	217	87	1.13	4.22	8.47	2.13	2.48
-10	(+14)	932	235	273	97	1.26	5.34	9.53	2.40	2.79

TEST CONDITIONS: @115V1600RPM		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)	206	52	60	48	0.68	1.16	4.30	1.08	1.26
-30	(-22)	304	77	89	60	0.79	1.72	5.06	1.27	1.48
-25	(-13)	408	103	120	72	0.91	2.32	5.71	1.44	1.67
-20	(- 4)	530	134	155	84	1.05	3.02	6.34	1.60	1.86
-15	(+ 5)	683	172	200	97	1.21	3.90	7.05	1.78	2.07
-10	(+14)	879	221	257	110	1.40	5.03	7.92	2.00	2.32

TEST CONDITIONS: @115V2000RPM		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)	326	82	96	57	0.81	1.84	5.72	1.44	1.68
-30	(-22)	448	113	131	65	0.88	2.54	6.80	1.71	1.99
-25	(-13)	589	148	173	75	0.99	3.34	7.81	1.97	2.29
-20	(- 4)	755	190	221	86	1.12	4.30	8.83	2.23	2.59
-15	(+ 5)	955	241	280	96	1.27	5.45	9.96	2.51	2.92
-10	(+14)	1197	302	351	107	1.42	6.86	11.26	2.84	3.30

E - PERFORMANCE - CURVES

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)	290	73	85	58	0.85	1.64	5.05	1.27	1.48	
-30 (-22)	411	103	120	69	0.95	2.33	5.95	1.50	1.74	
-25 (-13)	551	139	161	81	1.09	3.13	6.78	1.71	1.99	
-20 (- 4)	719	181	211	94	1.24	4.09	7.62	1.92	2.23	
-15 (+ 5)	922	232	270	107	1.40	5.26	8.57	2.16	2.51	
-10 (+14)	1168	294	342	120	1.56	6.69	9.70	2.44	2.84	

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)	269	68	79	59	0.83	1.52	4.57	1.15	1.34	
-30 (-22)	375	94	110	72	0.98	2.12	5.24	1.32	1.54	
-25 (-13)	502	127	147	87	1.15	2.85	5.84	1.47	1.71	
-20 (- 4)	659	166	193	103	1.34	3.75	6.45	1.62	1.89	
-15 (+ 5)	853	215	250	119	1.54	4.87	7.16	1.80	2.10	
-10 (+14)	1092	275	320	135	1.74	6.25	8.05	2.03	2.36	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V2250RPM		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)	421	106	123	74	1.04	2.38	5.69	1.43	1.67	
-30 (-22)	544	137	160	82	0.94	3.09	6.61	1.67	1.94	
-25 (-13)	694	175	203	92	1.20	3.94	7.55	1.90	2.21	
-20 (- 4)	875	221	256	102	1.64	4.98	8.57	2.16	2.51	
-15 (+ 5)	1094	276	321	113	2.11	6.25	9.75	2.46	2.86	
-10 (+14)	1356	342	397	122	2.45	7.77	11.16	2.81	3.27	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V2250RPM		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)	384	97	112	76	1.10	2.17	5.06	1.27	1.48	
-30 (-22)	504	127	148	86	1.04	2.86	5.84	1.47	1.71	
-25 (-13)	651	164	191	98	1.32	3.70	6.63	1.67	1.94	
-20 (- 4)	830	209	243	110	1.76	4.73	7.49	1.89	2.19	
-15 (+ 5)	1047	264	307	123	2.21	5.98	8.48	2.14	2.49	
-10 (+14)	1307	329	383	135	2.49	7.49	9.68	2.44	2.84	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2250RPM		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]
-35	(-31)	368	93	108	79	1.08	2.08	4.64	1.17	1.36
-30	(-22)	471	119	138	90	1.07	2.67	5.24	1.32	1.54
-25	(-13)	601	151	176	104	1.37	3.41	5.83	1.47	1.71
-20	(- 4)	762	192	223	118	1.81	4.34	6.47	1.63	1.90
-15	(+ 5)	962	242	282	133	2.24	5.49	7.23	1.82	2.12
-10	(+14)	1205	304	353	147	2.49	6.90	8.18	2.06	2.40

TEST CONDITIONS: @115V3000RPM		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]
-35	(-31)	516	130	151	95	1.31	2.92	5.41	1.36	1.59
-30	(-22)	640	161	187	103	1.40	3.62	6.27	1.58	1.84
-25	(-13)	846	213	248	119	1.59	4.80	7.10	1.79	2.08
-20	(- 4)	1120	282	328	140	1.83	6.38	7.97	2.01	2.33
-15	(+ 5)	1446	364	424	161	2.09	8.26	8.95	2.26	2.62
-10	(+14)	1807	455	530	179	2.32	10.36	10.14	2.56	2.97

TEST CONDITIONS: @115V3000RPM		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]
-35	(-31)	473	119	139	97	1.39	2.68	4.87	1.23	1.43
-30	(-22)	622	157	182	112	1.54	3.53	5.60	1.41	1.64
-25	(-13)	834	210	244	133	1.75	4.73	6.29	1.58	1.84
-20	(- 4)	1092	275	320	155	1.99	6.21	7.02	1.77	2.06
-15	(+ 5)	1380	348	404	176	2.21	7.88	7.88	1.99	2.31
-10	(+14)	1684	424	493	189	2.38	9.65	8.93	2.25	2.62

TEST CONDITIONS: @115V3000RPM		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]
-35	(-31)	411	104	120	94	1.32	2.32	4.37	1.10	1.28
-30	(-22)	581	146	170	116	1.54	3.29	5.00	1.26	1.47
-25	(-13)	792	200	232	141	1.80	4.50	5.59	1.41	1.64
-20	(- 4)	1029	259	301	165	2.05	5.85	6.22	1.57	1.82
-15	(+ 5)	1275	321	374	183	2.26	7.28	6.97	1.76	2.04
-10	(+14)	1516	382	444	193	2.39	8.68	7.92	2.00	2.32

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)	641	162	188	136	1.84	3.63	4.72	1.19	1.38	
-30 (-22)	919	232	269	170	2.15	5.21	5.40	1.36	1.58	
-25 (-13)	1185	299	347	187	2.34	6.73	6.34	1.60	1.86	
-20 (- 4)	1445	364	423	194	2.45	8.23	7.50	1.89	2.20	
-15 (+ 5)	1706	430	500	194	2.50	9.74	8.79	2.22	2.58	
-10 (+14)	1974	497	578	192	2.53	11.31	10.17	2.56	2.98	

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)	608	153	178	138	1.86	3.44	4.41	1.11	1.29	
-30 (-22)	868	219	254	173	2.18	4.92	4.97	1.25	1.46	
-25 (-13)	1109	280	325	192	2.37	6.30	5.79	1.46	1.70	
-20 (- 4)	1338	337	392	198	2.46	7.61	6.79	1.71	1.99	
-15 (+ 5)	1559	393	457	197	2.49	8.90	7.93	2.00	2.32	
-10 (+14)	1779	448	521	194	2.49	10.19	9.13	2.30	2.67	

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)	569	143	167	140	1.91	3.22	4.08	1.03	1.19	
-30 (-22)	806	203	236	176	2.23	4.57	4.52	1.14	1.33	
-25 (-13)	1017	256	298	194	2.41	5.77	5.21	1.31	1.53	
-20 (- 4)	1207	304	354	199	2.49	6.87	6.08	1.53	1.78	
-15 (+ 5)	1383	349	405	197	2.49	7.89	7.06	1.78	2.07	
-10 (+14)	1551	391	454	191	2.45	8.88	8.09	2.04	2.37	

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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		