COMPRESSOR DEFINITION

Designation	**VEG Y7H**
Nominal Voltage/Frequency	**230 V 53-150 Hz**
Engineering Number	**513800050**

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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	103 to 140 V	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	103 to 140 V	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm²] (230 psig)	/ ºC - ºF
9.2 Peak (gauge)	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	7.15	[cm³] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
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)	10.89	[kg] (24.01 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (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 25ºC (77ºF)] +/- 8%
7 Run winding resistance	6.40	[Ω at 25ºC (77ºF)] +/- 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 - IMTRO - TUV - UL - VDE	

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]
380	96	111	64	0.84	2.16	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]
475	120	139	79	1.03	2.70	6.02	1.52	1.76

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]
595	150	174	96	1.25	3.38	6.19	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]
765	193	224	130	1.63	4.35	5.90	1.49	1.73

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]
1070	270	314	195	2.39	6.08	5.49	1.38	1.61

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V1600RPM **Static**

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)**	196	49	57	37	0.57	1.11	5.25	1.32	1.54
-30	**(-22)**	295	74	87	45	0.64	1.68	6.47	1.63	1.90
-25	**(-13)**	401	101	118	52	0.71	2.28	7.62	1.92	2.23
-20	**(- 4)**	522	132	153	60	0.79	2.97	8.78	2.21	2.57
-15	**(+ 5)**	666	168	195	66	0.89	3.80	10.04	2.53	2.94
-10	**(+14)**	841	212	247	73	1.00	4.82	11.47	2.89	3.36

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V1600RPM **Static**

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)**	188	47	55	38	0.57	1.06	4.99	1.26	1.46
-30	**(-22)**	279	70	82	47	0.66	1.58	5.90	1.49	1.73
-25	**(-13)**	377	95	110	56	0.75	2.14	6.74	1.70	1.97
-20	**(- 4)**	490	123	144	65	0.85	2.79	7.57	1.91	2.22
-15	**(+ 5)**	627	158	184	74	0.97	3.58	8.50	2.14	2.49
-10	**(+14)**	797	201	233	83	1.10	4.56	9.58	2.42	2.81

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V1600RPM **Static**

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)**	158	40	46	37	0.56	0.89	4.27	1.08	1.25
-30	**(-22)**	246	62	72	48	0.68	1.40	5.06	1.28	1.48
-25	**(-13)**	342	86	100	59	0.80	1.94	5.76	1.45	1.69
-20	**(- 4)**	454	114	133	70	0.93	2.58	6.45	1.63	1.89
-15	**(+ 5)**	590	149	173	82	1.08	3.37	7.22	1.82	2.12
-10	**(+14)**	760	191	223	93	1.24	4.35	8.14	2.05	2.39

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V2000RPM **Static**

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)**	266	67	78	49	0.71	1.50	5.43	1.37	1.59
-30	**(-22)**	384	97	113	58	0.79	2.18	6.55	1.65	1.92
-25	**(-13)**	515	130	151	67	0.89	2.93	7.61	1.92	2.23
-20	**(- 4)**	667	168	195	77	1.01	3.79	8.70	2.19	2.55
-15	**(+ 5)**	847	213	248	86	1.13	4.83	9.90	2.49	2.90
-10	**(+14)**	1064	268	312	94	1.26	6.09	11.29	2.85	3.31

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V2000RPM **Static**

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)**	253	64	74	50	0.73	1.43	5.01	1.26	1.47
-30	**(-22)**	360	91	105	61	0.82	2.04	5.91	1.49	1.73
-25	**(-13)**	482	121	141	72	0.94	2.74	6.74	1.70	1.97
-20	**(- 4)**	627	158	184	83	1.08	3.57	7.57	1.91	2.22
-15	**(+ 5)**	804	203	236	95	1.24	4.59	8.50	2.14	2.49
-10	**(+14)**	1020	257	299	106	1.40	5.84	9.60	2.42	2.81

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V2000RPM **Static**

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)**	206	52	60	48	0.70	1.17	4.31	1.09	1.26
-30	**(-22)**	307	77	90	60	0.82	1.74	5.12	1.29	1.50
-25	**(-13)**	426	107	125	73	0.97	2.42	5.83	1.47	1.71
-20	**(- 4)**	571	144	167	87	1.14	3.25	6.53	1.65	1.91
-15	**(+ 5)**	749	189	220	102	1.33	4.28	7.31	1.84	2.14
-10	**(+14)**	970	244	284	117	1.53	5.56	8.25	2.08	2.42

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V2250RPM **Static**

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)**	350	88	103	65	0.91	1.98	5.37	1.35	1.57
-30	**(-22)**	490	123	144	75	1.00	2.78	6.47	1.63	1.90
-25	**(-13)**	642	162	188	85	1.11	3.65	7.54	1.90	2.21
-20	**(- 4)**	813	205	238	94	1.23	4.63	8.65	2.18	2.54
-15	**(+ 5)**	1010	254	296	103	1.35	5.76	9.87	2.49	2.89
-10	**(+14)**	1238	312	363	110	1.47	7.10	11.27	2.84	3.30

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V2250RPM **Static**

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)**	322	81	94	66	0.92	1.82	4.92	1.24	1.44
-30	**(-22)**	451	114	132	78	1.03	2.55	5.79	1.46	1.70
-25	**(-13)**	593	149	174	89	1.15	3.37	6.63	1.67	1.94
-20	**(- 4)**	755	190	221	100	1.29	4.30	7.52	1.90	2.20
-15	**(+ 5)**	944	238	277	111	1.43	5.39	8.51	2.15	2.49
-10	**(+14)**	1167	294	342	120	1.57	6.68	9.68	2.44	2.84

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V2250RPM **Static**

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	64	0.95	1.73	4.79	1.21	1.40
-30	**(-22)**	418	105	122	78	1.06	2.37	5.40	1.36	1.58
-25	**(-13)**	545	137	160	92	1.20	3.09	5.98	1.51	1.75
-20	**(- 4)**	693	175	203	105	1.35	3.94	6.60	1.66	1.93
-15	**(+ 5)**	869	219	255	118	1.51	4.96	7.32	1.85	2.15
-10	**(+14)**	1079	272	316	131	1.67	6.18	8.22	2.07	2.41

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V3000RPM **Static**

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)**	405	102	119	82	1.14	2.29	4.94	1.24	1.45
-30	**(-22)**	562	142	165	93	1.23	3.18	6.02	1.52	1.76
-25	**(-13)**	754	190	221	107	1.38	4.28	7.06	1.78	2.07
-20	**(- 4)**	989	249	290	122	1.57	5.63	8.12	2.05	2.38
-15	**(+ 5)**	1273	321	373	138	1.78	7.27	9.25	2.33	2.71
-10	**(+14)**	1613	407	473	153	2.00	9.24	10.51	2.65	3.08

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V3000RPM **Static**

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)**	375	95	110	82	1.16	2.12	4.59	1.16	1.35
-30	**(-22)**	545	137	160	99	1.30	3.09	5.50	1.39	1.61
-25	**(-13)**	742	187	217	116	1.49	4.21	6.36	1.60	1.86
-20	**(- 4)**	974	246	286	135	1.71	5.55	7.22	1.82	2.11
-15	**(+ 5)**	1249	315	366	153	1.94	7.13	8.14	2.05	2.38
-10	**(+14)**	1572	396	461	171	2.17	9.01	9.18	2.31	2.69

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V3000RPM **Static**

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)**	348	88	102	82	1.14	1.97	4.25	1.07	1.24
-30	**(-22)**	510	129	149	101	1.33	2.89	5.01	1.26	1.47
-25	**(-13)**	693	175	203	122	1.55	3.93	5.71	1.44	1.67
-20	**(- 4)**	903	228	265	142	1.79	5.14	6.40	1.61	1.87
-15	**(+ 5)**	1148	289	336	161	2.03	6.55	7.14	1.80	2.09
-10	**(+14)**	1435	362	421	180	2.25	8.22	8.00	2.02	2.34

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@115V4500RPM **Static**

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)**	547	138	160	121	1.60	3.10	4.52	1.14	1.32
-30	**(-22)**	808	204	237	150	1.91	4.58	5.43	1.37	1.59
-25	**(-13)**	1092	275	320	170	2.13	6.20	6.44	1.62	1.89
-20	**(- 4)**	1387	349	406	183	2.27	7.89	7.56	1.91	2.22
-15	**(+ 5)**	1682	424	493	190	2.37	9.61	8.79	2.22	2.58
-10	**(+14)**	1969	496	577	193	2.44	11.28	10.13	2.55	2.97

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@115V4500RPM **Static**

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)**	546	138	160	123	1.67	3.09	4.41	1.11	1.29
-30	**(-22)**	792	200	232	156	2.01	4.49	5.09	1.28	1.49
-25	**(-13)**	1045	263	306	178	2.23	5.93	5.89	1.48	1.73
-20	**(- 4)**	1295	326	379	191	2.36	7.37	6.81	1.72	1.99
-15	**(+ 5)**	1532	386	449	196	2.42	8.74	7.84	1.98	2.30
-10	**(+14)**	1744	440	511	194	2.43	9.99	8.99	2.27	2.63

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V4500RPM **Static**

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)**	505	127	148	128	1.70	2.85	3.98	1.00	1.17
-30	**(-22)**	749	189	219	165	2.08	4.24	4.51	1.14	1.32
-25	**(-13)**	985	248	289	189	2.33	5.59	5.17	1.30	1.52
-20	**(- 4)**	1204	303	353	201	2.46	6.85	5.96	1.50	1.75
-15	**(+ 5)**	1395	352	409	204	2.50	7.96	6.87	1.73	2.01
-10	**(+14)**	1547	390	453	197	2.47	8.86	7.91	1.99	2.32

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	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		