

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 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	198 to 265 V	198 to 265 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 265 V	198 to 265 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	7.15	[cm ³] (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/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]	
380	96	111	65	0.50	2.16	5.81	1.46	1.70	

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]	
475	120	139	80	0.61	2.70	5.95	1.50	1.74	

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]	
765	193	224	128	0.96	4.35	5.97	1.50	1.75	

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]	
1070	270	314	195	1.41	6.08	5.49	1.38	1.61	

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)	196	49	57	38	0.33	1.11	5.10	1.29	1.50
-30	(-22)	295	74	87	46	0.37	1.68	6.29	1.58	1.84
-25	(-13)	401	101	118	54	0.42	2.28	7.40	1.87	2.17
-20	(- 4)	522	132	153	61	0.47	2.97	8.53	2.15	2.50
-15	(+ 5)	666	168	195	68	0.53	3.80	9.75	2.46	2.86
-10	(+14)	841	212	247	75	0.59	4.82	11.14	2.81	3.26

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V1600RPM		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)	188	47	55	39	0.33	1.06	4.84	1.22	1.42	
-30 (-22)	279	70	82	48	0.38	1.58	5.73	1.44	1.68	
-25 (-13)	377	95	110	58	0.44	2.14	6.54	1.65	1.92	
-20 (- 4)	490	123	144	67	0.50	2.79	7.35	1.85	2.15	
-15 (+ 5)	627	158	184	76	0.57	3.58	8.25	2.08	2.42	
-10 (+14)	797	201	233	85	0.65	4.56	9.31	2.35	2.73	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V1600RPM		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)	158	40	46	38	0.33	0.89	4.15	1.05	1.22	
-30 (-22)	246	62	72	50	0.40	1.40	4.92	1.24	1.44	
-25 (-13)	342	86	100	61	0.47	1.94	5.59	1.41	1.64	
-20 (- 4)	454	114	133	73	0.55	2.58	6.26	1.58	1.83	
-15 (+ 5)	590	149	173	84	0.64	3.37	7.01	1.77	2.05	
-10 (+14)	760	191	223	96	0.73	4.35	7.91	1.99	2.32	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@220V2000RPM		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)	266	67	78	50	0.42	1.50	5.28	1.33	1.55	
-30 (-22)	384	97	113	60	0.47	2.18	6.36	1.60	1.86	
-25 (-13)	515	130	151	69	0.53	2.93	7.39	1.86	2.16	
-20 (- 4)	667	168	195	79	0.60	3.79	8.44	2.13	2.47	
-15 (+ 5)	847	213	248	88	0.67	4.83	9.61	2.42	2.82	
-10 (+14)	1064	268	312	97	0.75	6.09	10.97	2.76	3.21	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V2000RPM		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)	253	64	74	52	0.43	1.43	4.87	1.23	1.43	
-30 (-22)	360	91	105	63	0.49	2.04	5.74	1.45	1.68	
-25 (-13)	482	121	141	74	0.56	2.74	6.54	1.65	1.92	
-20 (- 4)	627	158	184	86	0.64	3.57	7.35	1.85	2.15	
-15 (+ 5)	804	203	236	97	0.73	4.59	8.25	2.08	2.42	
-10 (+14)	1020	257	299	109	0.83	5.84	9.32	2.35	2.73	

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)	206	52	60	49	0.41	1.17	4.18	1.05	1.23	
-30 (-22)	307	77	90	62	0.48	1.74	4.97	1.25	1.46	
-25 (-13)	426	107	125	76	0.57	2.42	5.66	1.43	1.66	
-20 (- 4)	571	144	167	90	0.68	3.25	6.34	1.60	1.86	
-15 (+ 5)	749	189	220	105	0.79	4.28	7.10	1.79	2.08	
-10 (+14)	970	244	284	120	0.90	5.56	8.01	2.02	2.35	

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)	405	102	119	82	0.67	2.29	4.94	1.24	1.45	
-30 (-22)	562	142	165	93	0.73	3.18	6.02	1.52	1.76	
-25 (-13)	754	190	221	107	0.82	4.28	7.06	1.78	2.07	
-20 (- 4)	989	249	290	122	0.93	5.63	8.12	2.05	2.38	
-15 (+ 5)	1273	321	373	138	1.05	7.27	9.25	2.33	2.71	
-10 (+14)	1613	407	473	153	1.18	9.24	10.51	2.65	3.08	

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)	375	95	110	82	0.68	2.12	4.59	1.16	1.35	
-30 (-22)	545	137	160	99	0.77	3.09	5.50	1.39	1.61	
-25 (-13)	742	187	217	116	0.88	4.21	6.36	1.60	1.86	
-20 (- 4)	974	246	286	135	1.01	5.55	7.22	1.82	2.11	
-15 (+ 5)	1249	315	366	153	1.14	7.13	8.14	2.05	2.38	
-10 (+14)	1572	396	461	171	1.27	9.01	9.18	2.31	2.69	

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)	348	88	102	82	0.67	1.97	4.25	1.07	1.24	
-30 (-22)	510	129	149	101	0.79	2.89	5.01	1.26	1.47	
-25 (-13)	693	175	203	122	0.92	3.93	5.71	1.44	1.67	
-20 (- 4)	903	228	265	142	1.06	5.14	6.40	1.61	1.87	
-15 (+ 5)	1148	289	336	161	1.20	6.55	7.14	1.80	2.09	
-10 (+14)	1435	362	421	180	1.33	8.22	8.00	2.02	2.34	

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)	547	138	160	121	0.95	3.10	4.52	1.14	1.32	
-30 (-22)	808	204	237	150	1.13	4.58	5.43	1.37	1.59	
-25 (-13)	1092	275	320	170	1.26	6.20	6.44	1.62	1.89	
-20 (- 4)	1387	349	406	183	1.35	7.89	7.56	1.91	2.22	
-15 (+ 5)	1682	424	493	190	1.40	9.61	8.79	2.22	2.58	
-10 (+14)	1969	496	577	193	1.44	11.28	10.13	2.55	2.97	

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)	546	138	160	123	0.99	3.09	4.41	1.11	1.29	
-30 (-22)	792	200	232	156	1.19	4.49	5.09	1.28	1.49	
-25 (-13)	1045	263	306	178	1.32	5.93	5.89	1.48	1.73	
-20 (- 4)	1295	326	379	191	1.39	7.37	6.81	1.72	1.99	
-15 (+ 5)	1532	386	449	196	1.43	8.74	7.84	1.98	2.30	
-10 (+14)	1744	440	511	194	1.43	9.99	8.99	2.27	2.63	

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)	505	127	148	128	1.00	2.85	3.98	1.00	1.17	
-30 (-22)	749	189	219	165	1.23	4.24	4.51	1.14	1.32	
-25 (-13)	985	248	289	189	1.37	5.59	5.17	1.30	1.52	
-20 (- 4)	1204	303	353	201	1.45	6.85	5.96	1.50	1.75	
-15 (+ 5)	1395	352	409	204	1.47	7.96	6.87	1.73	2.01	
-10 (+14)	1547	390	453	197	1.45	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		