

COMPRESSOR DEFINITION

Designation	VEG T7H
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513800011

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 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	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)	11.13	[kg] (24.54 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	EU155601N00/EU155602B04/EU155602B06	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	EU155602B04	
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		

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]
345	87	101	64	0.82	1.96	5.36	1.35	1.57

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]
439	111	129	81	1.01	2.49	5.43	1.37	1.59

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]
482	121	141	87	1.08	2.74	5.53	1.39	1.62

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]
730	184	214	132	1.58	4.15	5.53	1.39	1.62

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]
990	249	290	190	2.19	5.63	5.22	1.32	1.53

E - PERFORMANCE - CURVES

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]	[W/W]
-35	(-31)	158	40	46	39	0.51	0.89	4.04	1.02	1.18
-30	(-22)	241	61	71	48	0.62	1.37	4.96	1.25	1.45
-25	(-13)	338	85	99	58	0.74	1.92	5.83	1.47	1.71
-20	(- 4)	453	114	133	68	0.86	2.58	6.69	1.69	1.96
-15	(+ 5)	594	150	174	78	0.98	3.39	7.64	1.92	2.24
-10	(+14)	765	193	224	87	1.09	4.38	8.73	2.20	2.56

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]	[W/W]
-35	(-31)	124	31	36	39	0.51	0.70	3.11	0.78	0.91
-30	(-22)	201	51	59	49	0.62	1.14	4.06	1.02	1.19
-25	(-13)	291	73	85	60	0.75	1.65	4.88	1.23	1.43
-20	(- 4)	400	101	117	71	0.89	2.28	5.65	1.42	1.66
-15	(+ 5)	534	135	156	83	1.04	3.05	6.44	1.62	1.89
-10	(+14)	698	176	205	95	1.18	4.00	7.32	1.85	2.15

TEST CONDITIONS: @115V1600RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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)	79	20	23	38	0.51	0.44	2.07	0.52	0.61
-30	(-22)	153	39	45	49	0.62	0.87	3.12	0.79	0.91
-25	(-13)	241	61	71	61	0.76	1.37	3.98	1.00	1.17
-20	(- 4)	347	88	102	74	0.92	1.98	4.73	1.19	1.38
-15	(+ 5)	478	121	140	88	1.09	2.73	5.43	1.37	1.59
-10	(+14)	640	161	187	103	1.27	3.66	6.17	1.55	1.81

TEST CONDITIONS: @115V2000RPM		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)	226	57	66	51	0.66	1.28	4.38	1.10	1.28
-30	(-22)	316	80	93	61	0.76	1.79	5.21	1.31	1.53
-25	(-13)	433	109	127	72	0.89	2.46	6.02	1.52	1.76
-20	(- 4)	579	146	170	84	1.03	3.30	6.88	1.73	2.02
-15	(+ 5)	755	190	221	96	1.18	4.31	7.83	1.97	2.30
-10	(+14)	962	242	282	108	1.31	5.51	8.93	2.25	2.62

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		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)	170	43	50	49	0.63	0.96	3.51	0.88	1.03	
-30 (-22)	265	67	78	61	0.76	1.50	4.36	1.10	1.28	
-25 (-13)	383	96	112	74	0.92	2.17	5.14	1.30	1.51	
-20 (- 4)	527	133	154	89	1.08	3.00	5.92	1.49	1.73	
-15 (+ 5)	699	176	205	104	1.25	3.99	6.73	1.69	1.97	
-10 (+14)	900	227	264	118	1.42	5.16	7.63	1.92	2.23	

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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)	132	33	39	48	0.62	0.75	2.69	0.68	0.79	
-30 (-22)	221	56	65	61	0.77	1.25	3.57	0.90	1.05	
-25 (-13)	332	84	97	77	0.95	1.88	4.33	1.09	1.27	
-20 (- 4)	466	117	137	93	1.14	2.65	5.03	1.27	1.47	
-15 (+ 5)	625	158	183	110	1.34	3.57	5.71	1.44	1.67	
-10 (+14)	812	205	238	127	1.52	4.65	6.42	1.62	1.88	

TEST CONDITIONS: @115V2250RPM		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)	247	62	72	56	0.70	1.40	4.40	1.11	1.29	
-30 (-22)	345	87	101	65	0.83	1.95	5.23	1.32	1.53	
-25 (-13)	467	118	137	76	0.96	2.65	6.05	1.52	1.77	
-20 (- 4)	613	155	180	88	1.08	3.49	6.91	1.74	2.02	
-15 (+ 5)	785	198	230	100	1.21	4.48	7.86	1.98	2.30	
-10 (+14)	982	247	288	110	1.32	5.63	8.96	2.26	2.62	

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]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	223	56	65	56	0.70	1.26	4.00	1.01	1.17	
-30 (-22)	311	78	91	67	0.85	1.76	4.64	1.17	1.36	
-25 (-13)	423	107	124	81	1.00	2.40	5.26	1.33	1.54	
-20 (- 4)	560	141	164	95	1.15	3.18	5.93	1.49	1.74	
-15 (+ 5)	721	182	211	108	1.29	4.12	6.68	1.68	1.96	
-10 (+14)	909	229	266	120	1.44	5.21	7.58	1.91	2.22	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°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)	162	41	47	51	0.65	0.91	3.14	0.79	0.92	
-30 (-22)	247	62	72	67	0.82	1.40	3.72	0.94	1.09	
-25 (-13)	357	90	104	83	0.99	2.02	4.29	1.08	1.26	
-20 (- 4)	491	124	144	100	1.17	2.79	4.90	1.23	1.43	
-15 (+ 5)	651	164	191	116	1.34	3.71	5.59	1.41	1.64	
-10 (+14)	836	211	245	130	1.51	4.79	6.43	1.62	1.88	

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)	371	93	109	85	1.04	2.10	4.34	1.09	1.27	
-30 (-22)	524	132	154	103	1.23	2.97	5.10	1.29	1.50	
-25 (-13)	707	178	207	121	1.43	4.01	5.88	1.48	1.72	
-20 (- 4)	929	234	272	139	1.64	5.29	6.70	1.69	1.96	
-15 (+ 5)	1203	303	353	158	1.85	6.87	7.62	1.92	2.23	
-10 (+14)	1541	388	451	177	2.08	8.83	8.67	2.19	2.54	

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)	283	71	83	81	0.99	1.60	3.51	0.88	1.03	
-30 (-22)	441	111	129	101	1.22	2.50	4.32	1.09	1.27	
-25 (-13)	627	158	184	122	1.45	3.56	5.10	1.28	1.49	
-20 (- 4)	853	215	250	145	1.70	4.85	5.88	1.48	1.72	
-15 (+ 5)	1128	284	331	168	1.95	6.44	6.70	1.69	1.96	
-10 (+14)	1466	369	430	192	2.22	8.40	7.62	1.92	2.23	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°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)	224	56	66	75	0.92	1.26	2.98	0.75	0.87	
-30 (-22)	371	94	109	96	1.17	2.10	3.81	0.96	1.12	
-25 (-13)	545	137	160	120	1.43	3.09	4.54	1.14	1.33	
-20 (- 4)	757	191	222	145	1.71	4.31	5.24	1.32	1.53	
-15 (+ 5)	1018	257	298	172	2.00	5.81	5.93	1.49	1.74	
-10 (+14)	1340	338	393	201	2.31	7.68	6.66	1.68	1.95	

E - PERFORMANCE - CURVES

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)	496	125	145	123	1.47	2.80	4.03	1.01	1.18
-30	(-22)	698	176	204	147	1.73	3.95	4.76	1.20	1.39
-25	(-13)	931	235	273	170	1.98	5.29	5.51	1.39	1.62
-20	(- 4)	1213	306	355	192	2.23	6.90	6.33	1.59	1.85
-15	(+ 5)	1558	393	457	214	2.49	8.90	7.22	1.82	2.12
-10	(+14)	1984	500	581	239	2.76	11.37	8.24	2.08	2.41

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)	406	102	119	117	1.40	2.30	3.48	0.88	1.02
-30	(-22)	621	157	182	147	1.72	3.52	4.21	1.06	1.23
-25	(-13)	858	216	251	175	2.02	4.87	4.92	1.24	1.44
-20	(- 4)	1132	285	332	201	2.31	6.44	5.65	1.42	1.65
-15	(+ 5)	1461	368	428	228	2.60	8.34	6.41	1.61	1.88
-10	(+14)	1860	469	545	256	2.90	10.66	7.24	1.82	2.12

TEST CONDITIONS: @115V4500RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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)	308	78	90	107	1.28	1.74	2.87	0.72	0.84
-30	(-22)	541	136	159	144	1.66	3.07	3.67	0.92	1.08
-25	(-13)	786	198	230	177	2.03	4.46	4.40	1.11	1.29
-20	(- 4)	1060	267	310	209	2.37	6.03	5.10	1.29	1.49
-15	(+ 5)	1377	347	404	239	2.71	7.86	5.79	1.46	1.70
-10	(+14)	1755	442	514	270	3.04	10.05	6.51	1.64	1.91

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		