

COMPRESSOR DEFINITION

Designation	VEM T11C
Nominal Voltage/Frequency	230 V 53-143 Hz
Engineering Number	513906070

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 53-143	[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	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 V	187 to 255 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	11.14	[cm ³] (0.680 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	21.000	
3 Lubricant charge	210	[ml] (7.10 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	6.74	[kg] (14.86 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 53-143 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		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (40/150 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (40/150 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (40/150 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

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]	
362	91	106	58	0.46	1.14	6.20	1.56	1.82	

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]	
454	114	133	72	0.55	1.43	6.31	1.59	1.85	

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]	
670	169	196	106	0.80	2.10	6.31	1.59	1.85	

TEST CONDITIONS: @220V4300RPM			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]	
903	228	265	158	1.18	2.84	5.70	1.44	1.67	

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)	178	45	52	38	0.29	0.56	4.71	1.19	1.38
-30	(-22)	247	62	72	46	0.33	0.77	5.42	1.37	1.59
-25	(-13)	327	82	96	54	0.38	1.02	6.05	1.53	1.77
-20	(- 4)	420	106	123	63	0.43	1.32	6.68	1.68	1.96
-15	(+ 5)	533	134	156	72	0.48	1.68	7.35	1.85	2.15
-10	(+14)	670	169	196	82	0.52	2.11	8.15	2.05	2.39

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)	202	51	59	36	0.29	0.63	5.53	1.39	1.62	
-30 (-22)	274	69	80	44	0.34	0.86	6.27	1.58	1.84	
-25 (-13)	354	89	104	51	0.40	1.11	6.94	1.75	2.03	
-20 (- 4)	449	113	132	59	0.46	1.41	7.59	1.91	2.22	
-15 (+ 5)	562	142	165	68	0.52	1.77	8.30	2.09	2.43	
-10 (+14)	699	176	205	76	0.57	2.20	9.13	2.30	2.67	

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)	214	54	63	34	0.31	0.67	6.25	1.57	1.83	
-30 (-22)	288	73	84	41	0.36	0.90	7.07	1.78	2.07	
-25 (-13)	371	93	109	48	0.43	1.16	7.81	1.97	2.29	
-20 (- 4)	467	118	137	55	0.49	1.47	8.53	2.15	2.50	
-15 (+ 5)	581	146	170	62	0.56	1.83	9.31	2.35	2.73	
-10 (+14)	718	181	210	70	0.62	2.26	10.21	2.57	2.99	

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)	221	56	65	45	0.34	0.69	4.95	1.25	1.45	
-30 (-22)	307	77	90	56	0.39	0.96	5.50	1.39	1.61	
-25 (-13)	411	104	120	66	0.45	1.29	6.19	1.56	1.81	
-20 (- 4)	536	135	157	77	0.50	1.68	6.95	1.75	2.04	
-15 (+ 5)	684	172	200	89	0.56	2.15	7.73	1.95	2.27	
-10 (+14)	857	216	251	101	0.62	2.70	8.47	2.13	2.48	

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)	248	63	73	45	0.35	0.78	5.56	1.40	1.63	
-30 (-22)	336	85	98	54	0.42	1.05	6.25	1.57	1.83	
-25 (-13)	442	111	129	63	0.49	1.39	7.04	1.77	2.06	
-20 (- 4)	568	143	166	72	0.56	1.78	7.89	1.99	2.31	
-15 (+ 5)	717	181	210	82	0.63	2.26	8.73	2.20	2.56	
-10 (+14)	892	225	261	94	0.70	2.81	9.52	2.40	2.79	

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)	265	67	78	43	0.35	0.83	6.18	1.56	1.81	
-30 (-22)	356	90	104	51	0.42	1.11	7.03	1.77	2.06	
-25 (-13)	464	117	136	58	0.50	1.46	7.97	2.01	2.34	
-20 (- 4)	593	150	174	66	0.58	1.86	8.95	2.25	2.62	
-15 (+ 5)	745	188	218	75	0.67	2.35	9.89	2.49	2.90	
-10 (+14)	922	232	270	86	0.75	2.91	10.75	2.71	3.15	

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)	323	81	95	67	0.51	1.01	4.84	1.22	1.42	
-30 (-22)	449	113	132	83	0.59	1.41	5.44	1.37	1.59	
-25 (-13)	602	152	176	99	0.69	1.89	6.07	1.53	1.78	
-20 (- 4)	786	198	230	117	0.78	2.47	6.74	1.70	1.98	
-15 (+ 5)	1005	253	294	135	0.88	3.16	7.46	1.88	2.19	
-10 (+14)	1263	318	370	153	0.98	3.98	8.24	2.08	2.41	

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)	359	90	105	67	0.52	1.12	5.34	1.35	1.56	
-30 (-22)	488	123	143	81	0.62	1.53	6.00	1.51	1.76	
-25 (-13)	644	162	189	96	0.73	2.02	6.72	1.69	1.97	
-20 (- 4)	831	209	244	111	0.85	2.61	7.48	1.89	2.19	
-15 (+ 5)	1053	265	309	127	0.96	3.31	8.30	2.09	2.43	
-10 (+14)	1314	331	385	143	1.07	4.15	9.19	2.32	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)	389	98	114	67	0.52	1.22	5.84	1.47	1.71	
-30 (-22)	519	131	152	79	0.64	1.63	6.60	1.66	1.93	
-25 (-13)	676	170	198	91	0.76	2.12	7.41	1.87	2.17	
-20 (- 4)	864	218	253	104	0.89	2.72	8.29	2.09	2.43	
-15 (+ 5)	1088	274	319	118	1.02	3.42	9.23	2.33	2.70	
-10 (+14)	1350	340	396	132	1.14	4.26	10.25	2.58	3.00	

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
2 Tray holder	No
3 Connectors	
3.1 SUCTION	6.2 +0.05/+0.05 [mm] (0.244" +0.002"/+0.002")
3.1.1 Material	Copper
3.1.2 Shape	Slanted 40° up + 45° to Back
3.2 DISCHARGE	4.9 +0.10/-0.05 [mm] (0.193" +0.004"/-0.002")
3.2.1 Material	Copper
3.2.2 Shape	Slanted 0° up + 24° to Back
3.3 PROCESS	6.2 +0.05/+0.05 [mm] (0.244" +0.002"/+0.002")
3.3.1 Material	Copper
3.3.2 Shape	Slanted 40° up + 45° to Back
3.4 Oil cooler (Copper)	No [mm]
3.5 Connector sealing	Rubber Plugs