

COMPRESSOR DEFINITION

Designation	VEM T9C
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513906081

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
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	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	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	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
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)	6.5	[kg] (14.33 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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		[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	CCC	

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]	
300	76	88	52	0.40	0.94	5.75	1.45	1.68	

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]	
362	91	106	61	0.46	1.14	5.93	1.49	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]	
525	132	154	87	0.66	1.65	6.02	1.52	1.76	

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]	
719	181	211	129	0.98	2.26	5.57	1.40	1.63	

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)	173	43	51	29	0.24	0.54	5.87	1.48	1.72
-30	(-22)	234	59	69	35	0.28	0.73	6.64	1.67	1.95
-25	(-13)	310	78	91	41	0.32	0.97	7.48	1.89	2.19
-20	(- 4)	401	101	117	48	0.37	1.26	8.41	2.12	2.46
-15	(+ 5)	510	129	149	54	0.42	1.61	9.46	2.38	2.77
-10	(+14)	639	161	187	60	0.47	2.02	10.64	2.68	3.12

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)	161	41	47	31	0.25	0.50	5.23	1.32	1.53	
-30 (-22)	221	56	65	37	0.30	0.69	5.90	1.49	1.73	
-25 (-13)	295	74	87	45	0.35	0.93	6.57	1.66	1.93	
-20 (- 4)	385	97	113	53	0.42	1.21	7.28	1.83	2.13	
-15 (+ 5)	492	124	144	61	0.49	1.55	8.04	2.03	2.36	
-10 (+14)	620	156	182	70	0.56	1.96	8.88	2.24	2.60	

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)	132	33	39	31	0.25	0.41	4.31	1.09	1.26	
-30 (-22)	194	49	57	39	0.30	0.61	5.00	1.26	1.46	
-25 (-13)	268	68	79	48	0.36	0.84	5.63	1.42	1.65	
-20 (- 4)	358	90	105	57	0.43	1.13	6.24	1.57	1.83	
-15 (+ 5)	466	117	136	68	0.51	1.47	6.84	1.72	2.00	
-10 (+14)	593	149	174	79	0.60	1.87	7.47	1.88	2.19	

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)	215	54	63	36	0.28	0.67	5.93	1.49	1.74	
-30 (-22)	283	71	83	42	0.33	0.89	6.69	1.69	1.96	
-25 (-13)	367	93	108	49	0.37	1.15	7.51	1.89	2.20	
-20 (- 4)	470	119	138	56	0.42	1.48	8.42	2.12	2.47	
-15 (+ 5)	594	150	174	63	0.46	1.87	9.42	2.38	2.76	
-10 (+14)	742	187	217	70	0.50	2.34	10.56	2.66	3.09	

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)	192	48	56	37	0.29	0.60	5.15	1.30	1.51	
-30 (-22)	264	67	77	45	0.34	0.83	5.89	1.48	1.73	
-25 (-13)	350	88	103	53	0.40	1.10	6.63	1.67	1.94	
-20 (- 4)	452	114	133	61	0.46	1.42	7.40	1.87	2.17	
-15 (+ 5)	574	145	168	70	0.53	1.81	8.22	2.07	2.41	
-10 (+14)	716	180	210	79	0.59	2.26	9.11	2.30	2.67	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°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)	154	39	45	37	0.29	0.48	4.21	1.06	1.23	
-30 (-22)	231	58	68	46	0.35	0.73	4.97	1.25	1.45	
-25 (-13)	320	81	94	56	0.42	1.01	5.67	1.43	1.66	
-20 (- 4)	424	107	124	67	0.50	1.33	6.34	1.60	1.86	
-15 (+ 5)	544	137	159	78	0.58	1.71	7.01	1.77	2.05	
-10 (+14)	684	172	200	89	0.67	2.16	7.70	1.94	2.26	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@220V3000RPM		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)	314	79	92	55	0.42	0.98	5.72	1.44	1.68	
-30 (-22)	423	106	124	65	0.48	1.32	6.53	1.65	1.91	
-25 (-13)	555	140	163	75	0.56	1.74	7.39	1.86	2.17	
-20 (- 4)	713	180	209	86	0.65	2.24	8.31	2.09	2.43	
-15 (+ 5)	901	227	264	97	0.73	2.84	9.29	2.34	2.72	
-10 (+14)	1121	282	328	108	0.82	3.54	10.36	2.61	3.04	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V3000RPM		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)	286	72	84	56	0.42	0.90	5.11	1.29	1.50	
-30 (-22)	394	99	115	67	0.50	1.23	5.83	1.47	1.71	
-25 (-13)	525	132	154	80	0.59	1.65	6.58	1.66	1.93	
-20 (- 4)	682	172	200	92	0.69	2.14	7.36	1.85	2.16	
-15 (+ 5)	867	219	254	106	0.80	2.73	8.19	2.06	2.40	
-10 (+14)	1084	273	318	119	0.90	3.42	9.07	2.29	2.66	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V3000RPM		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)	258	65	76	55	0.42	0.81	4.66	1.18	1.37	
-30 (-22)	361	91	106	68	0.51	1.13	5.28	1.33	1.55	
-25 (-13)	486	122	142	82	0.61	1.52	5.91	1.49	1.73	
-20 (- 4)	636	160	186	97	0.73	2.00	6.54	1.65	1.92	
-15 (+ 5)	815	205	239	113	0.85	2.57	7.20	1.81	2.11	
-10 (+14)	1025	258	300	130	0.97	3.24	7.89	1.99	2.31	

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)	466	117	137	87	0.65	1.46	5.31	1.34	1.56	
-30 (-22)	590	149	173	96	0.70	1.85	6.10	1.54	1.79	
-25 (-13)	769	194	225	112	0.82	2.41	6.85	1.73	2.01	
-20 (- 4)	987	249	289	131	0.97	3.10	7.52	1.89	2.20	
-15 (+ 5)	1227	309	360	153	1.11	3.86	8.08	2.04	2.37	
-10 (+14)	1475	372	432	175	1.21	4.65	8.49	2.14	2.49	

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)	408	103	119	88	0.65	1.28	4.72	1.19	1.38	
-30 (-22)	544	137	160	102	0.72	1.71	5.41	1.36	1.59	
-25 (-13)	736	185	216	119	0.85	2.31	6.16	1.55	1.81	
-20 (- 4)	967	244	283	139	1.01	3.04	6.93	1.75	2.03	
-15 (+ 5)	1220	307	357	158	1.17	3.84	7.69	1.94	2.25	
-10 (+14)	1480	373	434	176	1.28	4.67	8.40	2.12	2.46	

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)	393	99	115	86	0.64	1.23	4.53	1.14	1.33	
-30 (-22)	510	129	150	105	0.72	1.60	4.90	1.24	1.44	
-25 (-13)	682	172	200	126	0.87	2.14	5.43	1.37	1.59	
-20 (- 4)	893	225	262	147	1.05	2.81	6.07	1.53	1.78	
-15 (+ 5)	1126	284	330	166	1.23	3.54	6.80	1.71	1.99	
-10 (+14)	1366	344	400	181	1.35	4.31	7.58	1.91	2.22	

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
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 + 0° to Back		
3.2 DISCHARGE	4.2 +0.10/-0.05	[mm]	(0.165" +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		