

### COMPRESSOR DEFINITION

Designation	VEM Y9C
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513906110

### 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 <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	9.04	[cm <sup>3</sup> ] (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)	7.5	[kg] (16.53 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	VCC3 2456 02 F 08	
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 - 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]	
289	73	85	49	0.40	0.91	5.91	1.49	1.73	

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]	
365	92	107	62	0.42	1.15	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]	
549	138	161	91	0.64	1.72	6.07	1.53	1.78	

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]	
750	189	220	129	0.95	2.35	5.80	1.46	1.70	

### 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)	159	40	47	29	0.24	0.50	5.52	1.39	1.62
-30	(-22)	181	46	53	28	0.21	0.57	6.17	1.55	1.81
-25	(-13)	297	75	87	37	0.27	0.93	7.89	1.99	2.31
-20	(- 4)	423	107	124	47	0.35	1.33	9.42	2.37	2.76
-15	(+ 5)	472	119	138	50	0.38	1.49	9.49	2.39	2.78
-10	(+14)	361	91	106	37	0.29	1.14	6.83	1.72	2.00

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1600RPM		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)	147	37	43	29	0.22	0.46	5.07	1.28	1.48
-30	(-22)	160	40	47	31	0.23	0.50	5.19	1.31	1.52
-25	(-13)	272	69	80	41	0.32	0.85	6.62	1.67	1.94
-20	(- 4)	397	100	116	52	0.41	1.25	8.07	2.03	2.37
-15	(+ 5)	450	113	132	55	0.43	1.42	8.29	2.09	2.43
-10	(+14)	347	87	102	40	0.31	1.09	6.00	1.51	1.76

TEST CONDITIONS: @220V1600RPM		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)	120	30	35	28	0.28	0.38	4.31	1.09	1.26
-30	(-22)	126	32	37	32	0.32	0.39	4.00	1.01	1.17
-25	(-13)	236	59	69	45	0.42	0.74	5.22	1.32	1.53
-20	(- 4)	363	91	106	57	0.51	1.14	6.70	1.69	1.96
-15	(+ 5)	422	106	124	59	0.52	1.33	7.15	1.80	2.10
-10	(+14)	329	83	96	43	0.38	1.04	5.32	1.34	1.56

TEST CONDITIONS: @220V2000RPM		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)	244	61	71	36	0.27	0.76	6.59	1.66	1.93
-30	(-22)	185	47	54	35	0.27	0.58	5.39	1.36	1.58
-25	(-13)	318	80	93	47	0.35	1.00	6.83	1.72	2.00
-20	(- 4)	506	127	148	59	0.44	1.59	8.97	2.26	2.63
-15	(+ 5)	609	153	178	62	0.46	1.92	9.89	2.49	2.90
-10	(+14)	490	123	143	46	0.34	1.54	7.64	1.92	2.24

TEST CONDITIONS: @220V2000RPM		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)	128	32	38	35	0.27	0.40	4.26	1.07	1.25
-30	(-22)	74	19	22	38	0.28	0.23	2.90	0.73	0.85
-25	(-13)	217	55	63	51	0.38	0.68	4.34	1.09	1.27
-20	(- 4)	417	105	122	64	0.48	1.31	6.66	1.68	1.95
-15	(+ 5)	537	135	157	67	0.50	1.69	7.93	2.00	2.32
-10	(+14)	438	110	128	49	0.37	1.38	6.21	1.56	1.82

### 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)	192	48	56	35	0.27	0.60	5.18	1.30	1.52	
-30 (-22)	121	31	36	40	0.31	0.38	3.31	0.84	0.97	
-25 (-13)	251	63	74	55	0.41	0.79	4.44	1.12	1.30	
-20 (- 4)	442	111	130	69	0.52	1.39	6.61	1.67	1.94	
-15 (+ 5)	557	140	163	71	0.54	1.76	7.90	1.99	2.32	
-10 (+14)	458	115	134	52	0.39	1.44	6.38	1.61	1.87	

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)	86	22	25	53	0.39	0.27	1.64	0.41	0.48	
-30 (-22)	97	24	28	53	0.40	0.30	1.76	0.44	0.52	
-25 (-13)	162	41	47	71	0.52	0.51	2.24	0.56	0.66	
-20 (- 4)	232	59	68	91	0.66	0.73	2.69	0.68	0.79	
-15 (+ 5)	261	66	76	96	0.69	0.82	2.73	0.69	0.80	
-10 (+14)	200	50	59	71	0.50	0.63	1.97	0.50	0.58	

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)	83	21	24	54	0.39	0.26	1.55	0.39	0.45	
-30 (-22)	90	23	26	57	0.42	0.28	1.57	0.40	0.46	
-25 (-13)	152	38	44	76	0.56	0.48	2.00	0.50	0.59	
-20 (- 4)	222	56	65	96	0.70	0.70	2.44	0.61	0.71	
-15 (+ 5)	252	63	74	101	0.73	0.79	2.51	0.63	0.73	
-10 (+14)	194	49	57	74	0.53	0.61	1.82	0.46	0.53	

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)	69	17	20	53	0.39	0.22	1.29	0.33	0.38	
-30 (-22)	72	18	21	59	0.44	0.23	1.25	0.32	0.37	
-25 (-13)	134	34	39	80	0.60	0.42	1.66	0.42	0.49	
-20 (- 4)	205	52	60	101	0.74	0.64	2.12	0.53	0.62	
-15 (+ 5)	238	60	70	106	0.76	0.75	2.25	0.57	0.66	
-10 (+14)	186	47	54	77	0.56	0.58	1.67	0.42	0.49	

### 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)	455	115	133	85	0.62	1.43	5.36	1.35	1.57	
-30 (-22)	486	122	142	84	0.61	1.52	5.61	1.41	1.65	
-25 (-13)	785	198	230	110	0.80	2.46	7.05	1.78	2.06	
-20 (- 4)	1119	282	328	140	1.00	3.52	8.43	2.13	2.47	
-15 (+ 5)	1256	317	368	148	1.06	3.95	8.55	2.15	2.50	
-10 (+14)	962	242	282	109	0.78	3.03	6.16	1.55	1.81	

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)	424	107	124	86	0.62	1.33	4.92	1.24	1.44	
-30 (-22)	427	108	125	87	0.63	1.34	4.89	1.23	1.43	
-25 (-13)	712	179	209	115	0.83	2.23	6.19	1.56	1.81	
-20 (- 4)	1044	263	306	145	1.04	3.28	7.58	1.91	2.22	
-15 (+ 5)	1191	300	349	152	1.08	3.75	7.82	1.97	2.29	
-10 (+14)	920	232	269	112	0.79	2.90	5.71	1.44	1.67	

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)	411	104	120	85	0.63	1.29	4.78	1.21	1.40	
-30 (-22)	386	97	113	89	0.66	1.21	4.44	1.12	1.30	
-25 (-13)	655	165	192	119	0.86	2.06	5.54	1.40	1.62	
-20 (- 4)	985	248	288	150	1.08	3.10	6.88	1.73	2.01	
-15 (+ 5)	1141	287	334	158	1.12	3.59	7.21	1.82	2.11	
-10 (+14)	890	224	261	116	0.82	2.80	5.31	1.34	1.56	

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
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	4.9 +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		