COMPRESSOR DEFINITION

Designation	**VEM X9C**
Nominal Voltage/Frequency	**230 V 40-150 Hz**
Engineering Number	**513903004**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 40-150	[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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	103 to 140 V	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	103 to 140 V	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	9.04	[cm³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	220	[ml] (7.44 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.59	[kg] (16.73 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 40-150 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC31156XXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC31156XXXXX	
6 Start winding resistance	16.07	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	16.07	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (40/150 Hz)	2.10/2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (40/150 Hz)	2.10/2.10	[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	CE - NOM - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V1200RPM**			**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]
220	55	64	38	0.30	0.69	5.84	1.47	1.71

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V1200RPM **Static**

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)**	123	31	36	21	0.18	0.39	5.77	1.45	1.69
-30	**(-22)**	168	42	49	25	0.21	0.53	6.62	1.67	1.94
-25	**(-13)**	220	55	64	29	0.24	0.69	7.54	1.90	2.21
-20	**(- 4)**	282	71	83	33	0.27	0.88	8.59	2.17	2.52
-15	**(+ 5)**	355	89	104	36	0.29	1.12	9.83	2.48	2.88
-10	**(+14)**	441	111	129	39	0.31	1.39	11.32	2.85	3.32

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V1200RPM **Static**

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)**	115	29	34	22	0.18	0.36	5.10	1.29	1.50
-30	**(-22)**	157	40	46	27	0.22	0.49	5.81	1.46	1.70
-25	**(-13)**	209	53	61	32	0.26	0.65	6.53	1.65	1.91
-20	**(- 4)**	270	68	79	37	0.30	0.85	7.34	1.85	2.15
-15	**(+ 5)**	343	86	101	41	0.33	1.08	8.29	2.09	2.43
-10	**(+14)**	430	108	126	46	0.37	1.36	9.44	2.38	2.77

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V1200RPM **Static**

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)**	101	25	30	23	0.19	0.32	4.36	1.10	1.28
-30	**(-22)**	144	36	42	28	0.24	0.45	5.08	1.28	1.49
-25	**(-13)**	195	49	57	34	0.28	0.61	5.77	1.45	1.69
-20	**(- 4)**	258	65	75	40	0.33	0.81	6.50	1.64	1.90
-15	**(+ 5)**	332	84	97	45	0.37	1.05	7.33	1.85	2.15
-10	**(+14)**	421	106	123	51	0.41	1.33	8.32	2.10	2.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V1600RPM **Static**

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)**	167	42	49	27	0.22	0.52	6.09	1.54	1.79
-30	**(-22)**	226	57	66	33	0.26	0.71	6.91	1.74	2.02
-25	**(-13)**	296	75	87	38	0.31	0.93	7.82	1.97	2.29
-20	**(- 4)**	381	96	112	43	0.35	1.20	8.88	2.24	2.60
-15	**(+ 5)**	481	121	141	48	0.39	1.51	10.14	2.56	2.97
-10	**(+14)**	600	151	176	52	0.42	1.89	11.66	2.94	3.42

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V1600RPM **Static**

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)**	151	38	44	29	0.23	0.47	5.30	1.34	1.55
-30	**(-22)**	210	53	62	35	0.28	0.66	6.05	1.53	1.77
-25	**(-13)**	281	71	82	41	0.34	0.88	6.82	1.72	2.00
-20	**(- 4)**	365	92	107	48	0.40	1.15	7.67	1.93	2.25
-15	**(+ 5)**	466	117	137	54	0.45	1.47	8.63	2.18	2.53
-10	**(+14)**	584	147	171	60	0.50	1.84	9.78	2.47	2.87

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V1600RPM **Static**

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	29	0.24	0.41	4.47	1.13	1.31
-30	**(-22)**	191	48	56	36	0.30	0.60	5.29	1.33	1.55
-25	**(-13)**	262	66	77	43	0.36	0.82	6.05	1.52	1.77
-20	**(- 4)**	347	87	102	51	0.43	1.09	6.80	1.71	1.99
-15	**(+ 5)**	447	113	131	59	0.49	1.41	7.60	1.91	2.23
-10	**(+14)**	565	142	166	66	0.55	1.78	8.49	2.14	2.49

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42º up + 45° to Back		
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	Slanted parallet BP+24°to Back		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 42º up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		