

COMPRESSOR DEFINITION

Designation	VEM B9C
Nominal Voltage/Frequency	230 V 40-150 Hz
Engineering Number	513906004

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 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	-	-
8.2 LBP (43°C Ambient temperature)	Static	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	7.7	[kgf/cm ²] (109 psig)	/ °C - °F
9.2 Peak (gauge)	9.8	[kgf/cm ²] (139 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/7	[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)	8	[kg] (17.64 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	VCC32456XXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER VCC3 2456	
6 Start winding resistance	8.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (40/150 Hz)	2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (40/150 Hz)	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	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@220V1200RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V1200RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V1200RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@220V1600RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

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)					0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00

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)					0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00

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)					0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00

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)					0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00

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)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

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)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

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)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

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)					0.00	0.00	0.00	0.00	0.00	
-30 (-22)					0.00	0.00	0.00	0.00	0.00	
-25 (-13)					0.00	0.00	0.00	0.00	0.00	
-20 (- 4)					0.00	0.00	0.00	0.00	0.00	
-15 (+ 5)					0.00	0.00	0.00	0.00	0.00	
-10 (+14)					0.00	0.00	0.00	0.00	0.00	

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)					0.00	0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00	0.00

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)					0.00	0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00	0.00

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)					0.00	0.00	0.00	0.00	0.00	0.00
-30	(-22)					0.00	0.00	0.00	0.00	0.00	0.00
-25	(-13)					0.00	0.00	0.00	0.00	0.00	0.00
-20	(- 4)					0.00	0.00	0.00	0.00	0.00	0.00
-15	(+ 5)					0.00	0.00	0.00	0.00	0.00	0.00
-10	(+14)					0.00	0.00	0.00	0.00	0.00	0.00

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	4.9 +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		