COMPRESSOR DEFINITION

Designation	**VEM B11C**
Nominal Voltage/Frequency	**230 V 53-150 Hz**
Engineering Number	**513906028**

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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	-	-
8.2 LBP (43ºC Ambient temperature)	-	-	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak (gauge)	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	11.14	[cm³] (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)	7.63	[kg] (16.82 lb.)
5 Nitrogen charge	-	[kgf/cm²]

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	CF02D01 M 0.0 X/VCC32456XXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC32456XXXXX	
6 Start winding resistance	8.10	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	8.10	[Ω at 25ºC (77ºF)] +/- 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		

D - PERFORMANCE - CHECK POINT DATA

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)**	223	56	65	37	0.29	0.70	0.00	0.00	0.00
-30	**(-22)**	229	58	67	35	0.28	0.72	0.00	0.00	0.00
-25	**(-13)**	372	94	109	46	0.36	1.17	0.00	0.00	0.00
-20	**(- 4)**	537	135	157	59	0.45	1.69	0.00	0.00	0.00
-15	**(+ 5)**	607	153	178	63	0.47	1.91	0.00	0.00	0.00
-10	**(+14)**	466	117	137	47	0.35	1.47	0.00	0.00	0.00

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)**	207	52	61	38	0.31	0.65	0.00	0.00	0.00
-30	**(-22)**	215	54	63	41	0.32	0.67	0.00	0.00	0.00
-25	**(-13)**	361	91	106	55	0.42	1.13	0.00	0.00	0.00
-20	**(- 4)**	528	133	155	68	0.52	1.66	0.00	0.00	0.00
-15	**(+ 5)**	601	152	176	70	0.53	1.89	0.00	0.00	0.00
-10	**(+14)**	464	117	136	52	0.39	1.46	0.00	0.00	0.00

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V2000RPM **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)**	278	70	81	45	0.36	0.87	0.00	0.00	0.00
-30	**(-22)**	299	75	88	46	0.36	0.93	0.00	0.00	0.00
-25	**(-13)**	480	121	141	60	0.46	1.51	0.00	0.00	0.00
-20	**(- 4)**	681	172	199	75	0.57	2.14	0.00	0.00	0.00
-15	**(+ 5)**	761	192	223	78	0.59	2.40	0.00	0.00	0.00
-10	**(+14)**	582	147	170	57	0.43	1.83	0.00	0.00	0.00

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V2000RPM **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)**	265	67	78	49	0.39	0.83	0.00	0.00	0.00
-30	**(-22)**	276	69	81	52	0.41	0.86	0.00	0.00	0.00
-25	**(-13)**	451	114	132	68	0.53	1.42	0.00	0.00	0.00
-20	**(- 4)**	651	164	191	83	0.63	2.05	0.00	0.00	0.00
-15	**(+ 5)**	736	185	216	85	0.64	2.32	0.00	0.00	0.00
-10	**(+14)**	565	142	165	62	0.46	1.78	0.00	0.00	0.00

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V3000RPM **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)**	413	104	121	70	0.55	1.29	5.95	1.50	1.74
-30	**(-22)**	455	115	133	69	0.52	1.42	6.33	1.60	1.85
-25	**(-13)**	730	184	214	92	0.68	2.29	7.84	1.98	2.30
-20	**(- 4)**	1031	260	302	117	0.87	3.24	9.22	2.32	2.70
-15	**(+ 5)**	1148	289	336	125	0.94	3.61	9.23	2.33	2.70
-10	**(+14)**	875	221	257	93	0.70	2.76	6.61	1.66	1.94

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V3000RPM **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)**	399	100	117	73	0.56	1.25	5.44	1.37	1.60
-30	**(-22)**	423	107	124	76	0.56	1.32	5.50	1.39	1.61
-25	**(-13)**	688	173	202	101	0.75	2.16	6.84	1.72	2.00
-20	**(- 4)**	986	248	289	127	0.95	3.10	8.21	2.07	2.41
-15	**(+ 5)**	1108	279	325	133	1.00	3.49	8.36	2.11	2.45
-10	**(+14)**	849	214	249	98	0.74	2.67	6.04	1.52	1.77

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V3000RPM **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)**	342	86	100	71	0.53	1.07	4.78	1.20	1.40
-30	**(-22)**	356	90	104	79	0.58	1.11	4.54	1.14	1.33
-25	**(-13)**	619	156	181	108	0.80	1.94	5.75	1.45	1.68
-20	**(- 4)**	922	232	270	136	1.02	2.90	7.14	1.80	2.09
-15	**(+ 5)**	1058	267	310	142	1.07	3.33	7.47	1.88	2.19
-10	**(+14)**	819	206	240	104	0.79	2.58	5.48	1.38	1.60

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V4500RPM **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)**	570	144	167	104	0.80	1.78	5.53	1.39	1.62
-30	**(-22)**	661	167	194	109	0.79	2.07	5.78	1.46	1.69
-25	**(-13)**	989	249	290	139	1.01	3.10	7.07	1.78	2.07
-20	**(- 4)**	1320	333	387	169	1.25	4.15	8.27	2.08	2.42
-15	**(+ 5)**	1422	358	417	172	1.30	4.48	8.25	2.08	2.42
-10	**(+14)**	1063	268	312	125	0.95	3.35	5.89	1.48	1.73

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V4500RPM **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)**	554	140	162	110	0.83	1.73	4.99	1.26	1.46
-30	**(-22)**	614	155	180	116	0.84	1.92	5.08	1.28	1.49
-25	**(-13)**	925	233	271	147	1.07	2.90	6.31	1.59	1.85
-20	**(- 4)**	1252	316	367	176	1.31	3.94	7.53	1.90	2.21
-15	**(+ 5)**	1364	344	400	179	1.36	4.29	7.64	1.93	2.24
-10	**(+14)**	1028	259	301	129	0.99	3.24	5.50	1.39	1.61

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V4500RPM **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)**	518	130	152	110	0.80	1.62	4.67	1.18	1.37
-30	**(-22)**	545	137	160	117	0.85	1.70	4.57	1.15	1.34
-25	**(-13)**	835	211	245	148	1.11	2.62	5.70	1.44	1.67
-20	**(- 4)**	1156	291	339	177	1.36	3.64	6.92	1.74	2.03
-15	**(+ 5)**	1275	321	374	179	1.40	4.02	7.13	1.80	2.09
-10	**(+14)**	960	242	281	128	1.02	3.02	5.17	1.30	1.52

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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		