COMPRESSOR DEFINITION

Designation	**VEM C7C**
Nominal Voltage/Frequency	**230 V 40-150 Hz**
Engineering Number	**513906169**

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	187 to 255 V	187 to 255 V
8.2 LBP (43ºC Ambient temperature)	Static	187 to 255 V	187 to 255 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	1/6	[hp]
2 Displacement	7.23	[cm³] (0.441 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	16.000	
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)	7.8	[kg] (17.20 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	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	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

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]
274	69	80	43	0.32	0.86	6.43	1.62	1.88

E - PERFORMANCE - CURVES

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

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)**	92	23	27	16	0.12	0.29	5.90	1.49	1.73
-30	**(-22)**	128	32	38	19	0.14	0.40	6.86	1.73	2.01
-25	**(-13)**	172	43	50	22	0.17	0.54	7.91	1.99	2.32
-20	**(- 4)**	224	56	66	25	0.19	0.70	9.12	2.30	2.67
-15	**(+ 5)**	286	72	84	27	0.21	0.90	10.54	2.65	3.09
-10	**(+14)**	359	90	105	29	0.23	1.13	12.22	3.08	3.58

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

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)**	80	20	23	16	0.12	0.25	5.01	1.26	1.47
-30	**(-22)**	116	29	34	20	0.15	0.36	5.88	1.48	1.72
-25	**(-13)**	159	40	47	24	0.18	0.50	6.76	1.70	1.98
-20	**(- 4)**	211	53	62	27	0.21	0.66	7.73	1.95	2.26
-15	**(+ 5)**	273	69	80	31	0.24	0.86	8.82	2.22	2.58
-10	**(+14)**	346	87	101	34	0.26	1.09	10.10	2.55	2.96

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

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)**	64	16	19	16	0.12	0.20	4.04	1.02	1.18
-30	**(-22)**	100	25	29	20	0.15	0.31	4.97	1.25	1.46
-25	**(-13)**	144	36	42	25	0.19	0.45	5.84	1.47	1.71
-20	**(- 4)**	196	49	57	29	0.23	0.62	6.71	1.69	1.97
-15	**(+ 5)**	258	65	76	34	0.26	0.81	7.63	1.92	2.24
-10	**(+14)**	331	83	97	38	0.29	1.04	8.66	2.18	2.54

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)**	125	32	37	20	0.15	0.39	6.12	1.54	1.79
-30	**(-22)**	173	44	51	24	0.18	0.54	7.05	1.78	2.07
-25	**(-13)**	230	58	67	28	0.21	0.72	8.09	2.04	2.37
-20	**(- 4)**	299	75	87	32	0.24	0.94	9.29	2.34	2.72
-15	**(+ 5)**	380	96	111	36	0.27	1.20	10.70	2.70	3.14
-10	**(+14)**	476	120	139	39	0.29	1.50	12.39	3.12	3.63

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)**	110	28	32	21	0.16	0.34	5.26	1.32	1.54
-30	**(-22)**	158	40	46	26	0.19	0.49	6.10	1.54	1.79
-25	**(-13)**	215	54	63	31	0.23	0.67	6.96	1.76	2.04
-20	**(- 4)**	284	71	83	36	0.27	0.89	7.92	2.00	2.32
-15	**(+ 5)**	365	92	107	40	0.31	1.15	9.01	2.27	2.64
-10	**(+14)**	461	116	135	45	0.34	1.45	10.30	2.60	3.02

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)**	91	23	27	21	0.15	0.28	4.36	1.10	1.28
-30	**(-22)**	139	35	41	26	0.19	0.43	5.24	1.32	1.54
-25	**(-13)**	196	49	57	32	0.24	0.62	6.07	1.53	1.78
-20	**(- 4)**	265	67	78	38	0.29	0.83	6.92	1.74	2.03
-15	**(+ 5)**	346	87	101	44	0.33	1.09	7.82	1.97	2.29
-10	**(+14)**	442	111	129	50	0.38	1.39	8.84	2.23	2.59

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)**	159	40	47	25	0.19	0.50	6.26	1.58	1.83
-30	**(-22)**	219	55	64	30	0.23	0.69	7.18	1.81	2.10
-25	**(-13)**	291	73	85	35	0.26	0.91	8.21	2.07	2.40
-20	**(- 4)**	377	95	110	40	0.30	1.18	9.39	2.37	2.75
-15	**(+ 5)**	479	121	140	45	0.33	1.51	10.78	2.72	3.16
-10	**(+14)**	599	151	176	48	0.36	1.89	12.44	3.13	3.64

E - PERFORMANCE - CURVES

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)**	140	35	41	26	0.19	0.44	5.33	1.34	1.56
-30	**(-22)**	200	50	59	32	0.24	0.63	6.18	1.56	1.81
-25	**(-13)**	272	69	80	38	0.29	0.85	7.06	1.78	2.07
-20	**(- 4)**	358	90	105	45	0.33	1.12	8.01	2.02	2.35
-15	**(+ 5)**	460	116	135	50	0.38	1.45	9.10	2.29	2.67
-10	**(+14)**	580	146	170	56	0.42	1.83	10.36	2.61	3.04

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@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)**	118	30	35	27	0.20	0.37	4.43	1.12	1.30
-30	**(-22)**	177	45	52	33	0.25	0.56	5.35	1.35	1.57
-25	**(-13)**	249	63	73	40	0.30	0.78	6.20	1.56	1.82
-20	**(- 4)**	335	84	98	48	0.36	1.05	7.04	1.77	2.06
-15	**(+ 5)**	437	110	128	55	0.41	1.38	7.94	2.00	2.33
-10	**(+14)**	557	140	163	62	0.47	1.76	8.94	2.25	2.62

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)**	237	60	69	38	0.29	0.74	6.16	1.55	1.80
-30	**(-22)**	326	82	95	46	0.35	1.02	6.99	1.76	2.05
-25	**(-13)**	432	109	126	55	0.41	1.35	7.90	1.99	2.31
-20	**(- 4)**	559	141	164	63	0.47	1.75	8.94	2.25	2.62
-15	**(+ 5)**	709	179	208	70	0.52	2.23	10.19	2.57	2.99
-10	**(+14)**	887	223	260	76	0.57	2.80	11.69	2.95	3.43

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)**	211	53	62	40	0.30	0.66	5.34	1.35	1.56
-30	**(-22)**	299	75	88	49	0.37	0.94	6.12	1.54	1.79
-25	**(-13)**	405	102	119	59	0.44	1.27	6.90	1.74	2.02
-20	**(- 4)**	532	134	156	69	0.51	1.67	7.74	1.95	2.27
-15	**(+ 5)**	682	172	200	78	0.58	2.15	8.70	2.19	2.55
-10	**(+14)**	860	217	252	87	0.65	2.71	9.83	2.48	2.88

E - PERFORMANCE - CURVES

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)**	178	45	52	40	0.30	0.56	4.48	1.13	1.31
-30	**(-22)**	266	67	78	50	0.37	0.83	5.34	1.35	1.57
-25	**(-13)**	372	94	109	61	0.45	1.17	6.12	1.54	1.79
-20	**(- 4)**	499	126	146	73	0.54	1.57	6.88	1.73	2.02
-15	**(+ 5)**	650	164	190	85	0.63	2.05	7.67	1.93	2.25
-10	**(+14)**	827	208	242	96	0.72	2.61	8.57	2.16	2.51

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)**	353	89	103	59	0.44	1.10	5.96	1.50	1.75
-30	**(-22)**	476	120	140	71	0.52	1.49	6.72	1.69	1.97
-25	**(-13)**	625	157	183	83	0.60	1.96	7.56	1.90	2.22
-20	**(- 4)**	803	202	235	94	0.68	2.52	8.52	2.15	2.50
-15	**(+ 5)**	1014	256	297	105	0.76	3.19	9.67	2.44	2.83
-10	**(+14)**	1263	318	370	115	0.83	3.98	11.05	2.78	3.24

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)**	321	81	94	62	0.46	1.01	5.18	1.30	1.52
-30	**(-22)**	444	112	130	75	0.55	1.39	5.92	1.49	1.73
-25	**(-13)**	593	149	174	89	0.65	1.86	6.65	1.67	1.95
-20	**(- 4)**	771	194	226	104	0.75	2.42	7.43	1.87	2.18
-15	**(+ 5)**	982	248	288	118	0.85	3.09	8.31	2.09	2.43
-10	**(+14)**	1231	310	361	132	0.95	3.88	9.35	2.36	2.74

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)**	283	71	83	65	0.48	0.89	4.34	1.09	1.27
-30	**(-22)**	406	102	119	79	0.57	1.27	5.17	1.30	1.52
-25	**(-13)**	555	140	163	94	0.68	1.74	5.92	1.49	1.73
-20	**(- 4)**	733	185	215	111	0.80	2.30	6.63	1.67	1.94
-15	**(+ 5)**	944	238	277	128	0.93	2.97	7.37	1.86	2.16
-10	**(+14)**	1193	301	350	145	1.05	3.76	8.19	2.06	2.40

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
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 40° up + 45° to Back		
3.2 DISCHARGE	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		