COMPRESSOR DEFINITION

Designation	**VEM C5C**
Nominal Voltage/Frequency	**230 V 40-150 Hz**
Engineering Number	**513906055**

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	1/10	[hp]
2 Displacement	5.19	[cm³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
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: **@220V1200RPM**			**CECOMAFLBP** **Static**		Evaporating temperature (Condensing temperature		**-25°C (-13°F)** **55°C (131°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]
73	18	21	19	0.16	0.28	3.84	0.97	1.13

TEST CONDITIONS: **@220V1600RPM**			**CECOMAFLBP** **Static**		Evaporating temperature (Condensing temperature		**-25°C (-13°F)** **55°C (131°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]
102	26	30	23	0.20	0.39	4.40	1.11	1.29

TEST CONDITIONS: **@220V2000RPM**			**CECOMAFLBP** **Static**		Evaporating temperature (Condensing temperature		**-25°C (-13°F)** **55°C (131°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]
127	32	37	28	0.23	0.48	4.62	1.16	1.35

TEST CONDITIONS: **@220V3000RPM**			**CECOMAFLBP** **Static**		Evaporating temperature (Condensing temperature		**-25°C (-13°F)** **55°C (131°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]
197	50	58	41	0.32	0.75	4.84	1.22	1.42

TEST CONDITIONS: **@220V4500RPM**			**CECOMAFLBP** **Static**		Evaporating temperature (Condensing temperature		**-25°C (-13°F)** **55°C (131°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]
295	74	86	63	0.48	1.12	4.72	1.19	1.38

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (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)**	57	14	17	12	0.09	0.18	4.80	1.21	1.41
-30	**(-22)**	82	21	24	14	0.10	0.26	5.87	1.48	1.72
-25	**(-13)**	113	29	33	16	0.12	0.36	6.99	1.76	2.05
-20	**(- 4)**	150	38	44	18	0.14	0.48	8.22	2.07	2.41
-15	**(+ 5)**	194	49	57	20	0.15	0.62	9.62	2.43	2.82
-10	**(+14)**	245	62	72	22	0.17	0.79	11.27	2.84	3.30

TEST CONDITIONS: **CECOMAF** (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)**	41	10	12	12	0.09	0.14	3.37	0.85	0.99
-30	**(-22)**	65	16	19	15	0.11	0.23	4.35	1.10	1.27
-25	**(-13)**	94	24	27	18	0.14	0.33	5.28	1.33	1.55
-20	**(- 4)**	128	32	37	20	0.16	0.44	6.23	1.57	1.83
-15	**(+ 5)**	168	42	49	23	0.18	0.59	7.28	1.83	2.13
-10	**(+14)**	215	54	63	25	0.20	0.75	8.48	2.14	2.48

TEST CONDITIONS: **CECOMAF** (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)**	26	7	8	13	0.10	0.10	2.09	0.53	0.61
-30	**(-22)**	48	12	14	16	0.12	0.18	3.09	0.78	0.91
-25	**(-13)**	74	19	22	19	0.14	0.28	3.97	1.00	1.16
-20	**(- 4)**	105	26	31	22	0.17	0.40	4.78	1.20	1.40
-15	**(+ 5)**	141	36	41	25	0.19	0.54	5.59	1.41	1.64
-10	**(+14)**	184	46	54	28	0.21	0.71	6.48	1.63	1.90

TEST CONDITIONS: **CECOMAF** (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)**	78	20	23	15	0.11	0.25	5.24	1.32	1.54
-30	**(-22)**	111	28	33	18	0.14	0.36	6.27	1.58	1.84
-25	**(-13)**	151	38	44	20	0.16	0.49	7.39	1.86	2.17
-20	**(- 4)**	200	50	59	23	0.18	0.64	8.67	2.18	2.54
-15	**(+ 5)**	257	65	75	25	0.19	0.83	10.14	2.55	2.97
-10	**(+14)**	324	82	95	27	0.21	1.05	11.85	2.99	3.47

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (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)**	59	15	17	15	0.12	0.21	3.86	0.97	1.13
-30	**(-22)**	90	23	26	19	0.15	0.31	4.75	1.20	1.39
-25	**(-13)**	127	32	37	22	0.17	0.44	5.65	1.42	1.66
-20	**(- 4)**	171	43	50	26	0.20	0.60	6.62	1.67	1.94
-15	**(+ 5)**	224	56	66	29	0.22	0.78	7.69	1.94	2.25
-10	**(+14)**	286	72	84	32	0.24	1.00	8.92	2.25	2.61

TEST CONDITIONS: **CECOMAF** (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)**	40	10	12	16	0.12	0.15	2.59	0.65	0.76
-30	**(-22)**	68	17	20	20	0.15	0.26	3.49	0.88	1.02
-25	**(-13)**	102	26	30	24	0.18	0.39	4.33	1.09	1.27
-20	**(- 4)**	143	36	42	28	0.21	0.54	5.14	1.30	1.51
-15	**(+ 5)**	191	48	56	32	0.24	0.73	5.98	1.51	1.75
-10	**(+14)**	247	62	72	36	0.27	0.95	6.88	1.73	2.02

TEST CONDITIONS: **CECOMAF** (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)**	103	26	30	19	0.14	0.33	5.42	1.37	1.59
-30	**(-22)**	144	36	42	22	0.17	0.46	6.40	1.61	1.87
-25	**(-13)**	193	49	57	26	0.20	0.62	7.52	1.89	2.20
-20	**(- 4)**	253	64	74	29	0.22	0.81	8.82	2.22	2.59
-15	**(+ 5)**	325	82	95	31	0.24	1.04	10.36	2.61	3.03
-10	**(+14)**	408	103	120	34	0.26	1.32	12.15	3.06	3.56

TEST CONDITIONS: **CECOMAF** (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)**	80	20	24	19	0.15	0.28	4.17	1.05	1.22
-30	**(-22)**	118	30	35	24	0.19	0.41	4.94	1.25	1.45
-25	**(-13)**	164	41	48	28	0.22	0.57	5.79	1.46	1.70
-20	**(- 4)**	219	55	64	32	0.25	0.76	6.74	1.70	1.98
-15	**(+ 5)**	285	72	83	36	0.28	0.99	7.84	1.98	2.30
-10	**(+14)**	362	91	106	40	0.30	1.27	9.13	2.30	2.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (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)**	58	15	17	19	0.14	0.22	3.07	0.77	0.90
-30	**(-22)**	92	23	27	24	0.19	0.35	3.80	0.96	1.11
-25	**(-13)**	134	34	39	30	0.23	0.51	4.52	1.14	1.32
-20	**(- 4)**	185	46	54	35	0.27	0.70	5.27	1.33	1.54
-15	**(+ 5)**	244	62	72	40	0.31	0.94	6.08	1.53	1.78
-10	**(+14)**	314	79	92	45	0.34	1.21	7.01	1.77	2.05

TEST CONDITIONS: **CECOMAF** (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)**	156	39	46	27	0.21	0.50	5.67	1.43	1.66
-30	**(-22)**	216	54	63	33	0.25	0.69	6.56	1.65	1.92
-25	**(-13)**	288	73	84	38	0.29	0.92	7.51	1.89	2.20
-20	**(- 4)**	375	94	110	44	0.33	1.20	8.58	2.16	2.51
-15	**(+ 5)**	477	120	140	49	0.37	1.54	9.84	2.48	2.88
-10	**(+14)**	598	151	175	53	0.40	1.93	11.33	2.86	3.32

TEST CONDITIONS: **CECOMAF** (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)**	125	32	37	28	0.22	0.43	4.45	1.12	1.30
-30	**(-22)**	181	45	53	35	0.27	0.63	5.22	1.31	1.53
-25	**(-13)**	247	62	72	41	0.32	0.86	5.97	1.50	1.75
-20	**(- 4)**	327	82	96	48	0.37	1.14	6.77	1.71	1.98
-15	**(+ 5)**	421	106	123	55	0.42	1.47	7.67	1.93	2.25
-10	**(+14)**	532	134	156	61	0.47	1.86	8.72	2.20	2.56

TEST CONDITIONS: **CECOMAF** (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)**	94	24	27	29	0.22	0.36	3.24	0.82	0.95
-30	**(-22)**	145	36	42	36	0.27	0.55	4.05	1.02	1.19
-25	**(-13)**	205	52	60	43	0.33	0.78	4.76	1.20	1.39
-20	**(- 4)**	278	70	81	51	0.39	1.06	5.42	1.37	1.59
-15	**(+ 5)**	364	92	107	60	0.45	1.39	6.11	1.54	1.79
-10	**(+14)**	465	117	136	68	0.51	1.79	6.87	1.73	2.01

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (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)**	228	57	67	41	0.36	0.73	5.51	1.39	1.61
-30	**(-22)**	317	80	93	50	0.41	1.02	6.38	1.61	1.87
-25	**(-13)**	424	107	124	58	0.46	1.36	7.27	1.83	2.13
-20	**(- 4)**	553	139	162	67	0.50	1.78	8.26	2.08	2.42
-15	**(+ 5)**	706	178	207	75	0.55	2.27	9.40	2.37	2.75
-10	**(+14)**	886	223	260	83	0.60	2.86	10.76	2.71	3.15

TEST CONDITIONS: **CECOMAF** (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)**	181	46	53	44	0.36	0.63	4.19	1.06	1.23
-30	**(-22)**	263	66	77	52	0.42	0.92	5.03	1.27	1.47
-25	**(-13)**	363	91	106	62	0.48	1.26	5.80	1.46	1.70
-20	**(- 4)**	481	121	141	73	0.53	1.68	6.57	1.65	1.92
-15	**(+ 5)**	622	157	182	84	0.58	2.17	7.40	1.86	2.17
-10	**(+14)**	787	198	231	94	0.64	2.76	8.36	2.11	2.45

TEST CONDITIONS: **CECOMAF** (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)**	134	34	39	47	0.33	0.51	2.87	0.72	0.84
-30	**(-22)**	210	53	61	55	0.40	0.80	3.81	0.96	1.12
-25	**(-13)**	300	76	88	66	0.47	1.14	4.59	1.16	1.34
-20	**(- 4)**	407	103	119	78	0.54	1.56	5.28	1.33	1.55
-15	**(+ 5)**	535	135	157	90	0.60	2.05	5.94	1.50	1.74
-10	**(+14)**	686	173	201	103	0.68	2.63	6.64	1.67	1.95

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
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 12° out + 79° up		
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 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 42º up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		