

COMPRESSOR DEFINITION

Designation	VEM C5C
Nominal Voltage/Frequency	230 V 40-150 Hz
Engineering Number	513906014

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	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 V	187 to 255 V
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	1/10	[hp]
2 Displacement	5.19	[cm ³] (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/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	VCC32456XXXXX	
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: @220V1200RPM		CECOMAF 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)	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: @220V1200RPM		CECOMAF 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)	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: @220V1200RPM		CECOMAF 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)	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: @220V1600RPM		CECOMAF 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)	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: @220V1600RPM		CECOMAF 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)	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: @220V1600RPM		CECOMAF 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)	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: @220V2000RPM		CECOMAF 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)	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: @220V2000RPM		CECOMAF 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)	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 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)	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 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)	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 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)	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 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)	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: @220V4500RPM		CECOMAF 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]
-35	(-31)	228	57	67	41	0.32	0.73	5.51	1.39	1.61
-30	(-22)	317	80	93	50	0.50	1.02	6.38	1.61	1.87
-25	(-13)	424	107	124	58	0.62	1.36	7.27	1.83	2.13
-20	(- 4)	553	139	162	67	0.69	1.78	8.26	2.08	2.42
-15	(+ 5)	706	178	207	75	0.69	2.27	9.40	2.37	2.75
-10	(+14)	886	223	260	83	0.63	2.86	10.76	2.71	3.15

TEST CONDITIONS: @220V4500RPM		CECOMAF 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]
-35	(-31)	181	46	53	44	0.39	0.63	4.19	1.06	1.23
-30	(-22)	263	66	77	52	0.43	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	0.55	1.68	6.57	1.65	1.92
-15	(+ 5)	622	157	182	84	0.62	2.17	7.40	1.86	2.17
-10	(+14)	787	198	231	94	0.69	2.76	8.36	2.11	2.45

TEST CONDITIONS: @220V4500RPM		CECOMAF 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]
-35	(-31)	134	34	39	47	0.60	0.51	2.87	0.72	0.84
-30	(-22)	210	53	61	55	0.44	0.80	3.81	0.96	1.12
-25	(-13)	300	76	88	66	0.37	1.14	4.59	1.16	1.34
-20	(- 4)	407	103	119	78	0.39	1.56	5.28	1.33	1.55
-15	(+ 5)	535	135	157	90	0.47	2.05	5.94	1.50	1.74
-10	(+14)	686	173	201	103	0.63	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	6.2 +0.05/+0.05	[mm]	(0.244" +0.002"/+0.002")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 42° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		