

COMPRESSOR DEFINITION

Designation	VEM C7C
Nominal Voltage/Frequency	230 V 40-150 Hz
Engineering Number	513906046

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	103 to 140 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	103 to 140 V	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	7.23	[cm ³] (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)	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	VCC31156XXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC31156XXXXX	
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	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V1200RPM			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]
117	29	34	25	0.35	0.45	4.74	1.19	1.39

TEST CONDITIONS: @115V1600RPM			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]
160	40	47	32	0.45	0.61	4.97	1.25	1.46

TEST CONDITIONS: @115V2000RPM			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]
201	51	59	40	0.55	0.77	5.01	1.26	1.47

TEST CONDITIONS: @115V3000RPM			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]
304	77	89	61	0.81	1.16	5.02	1.27	1.47

TEST CONDITIONS: @115V4500RPM			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]
433	109	127	89	1.21	1.65	4.89	1.23	1.43

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1200RPM		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]
-35	(-31)	90	23	26	16	0.25	0.29	5.77	1.45	1.69
-30	(-22)	125	32	37	19	0.31	0.40	6.70	1.69	1.96
-25	(-13)	168	42	49	22	0.34	0.54	7.74	1.95	2.27
-20	(- 4)	219	55	64	25	0.37	0.70	8.92	2.25	2.61
-15	(+ 5)	280	70	82	27	0.40	0.90	10.31	2.60	3.02
-10	(+14)	351	88	103	29	0.45	1.13	11.95	3.01	3.50

TEST CONDITIONS: @115V1200RPM		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]
-35	(-31)	72	18	21	16	0.25	0.25	4.52	1.14	1.32
-30	(-22)	104	26	31	20	0.31	0.36	5.30	1.34	1.55
-25	(-13)	144	36	42	24	0.35	0.50	6.09	1.54	1.78
-20	(- 4)	190	48	56	27	0.40	0.66	6.95	1.75	2.04
-15	(+ 5)	246	62	72	31	0.47	0.86	7.94	2.00	2.33
-10	(+14)	312	79	91	34	0.56	1.09	9.10	2.29	2.67

TEST CONDITIONS: @115V1200RPM		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]
-35	(-31)	53	13	15	16	0.25	0.20	3.32	0.84	0.97
-30	(-22)	83	21	24	20	0.31	0.31	4.10	1.03	1.20
-25	(-13)	119	30	35	25	0.37	0.45	4.82	1.21	1.41
-20	(- 4)	161	41	47	29	0.45	0.62	5.53	1.39	1.62
-15	(+ 5)	212	53	62	34	0.56	0.81	6.27	1.58	1.84
-10	(+14)	272	69	80	38	0.71	1.04	7.11	1.79	2.08

TEST CONDITIONS: @115V1600RPM		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]
-35	(-31)	122	31	36	20	0.35	0.39	5.99	1.51	1.75
-30	(-22)	169	42	49	24	0.41	0.54	6.89	1.74	2.02
-25	(-13)	225	57	66	28	0.46	0.72	7.91	1.99	2.32
-20	(- 4)	292	74	86	32	0.51	0.94	9.08	2.29	2.66
-15	(+ 5)	372	94	109	36	0.55	1.20	10.47	2.64	3.07
-10	(+14)	465	117	136	39	0.60	1.50	12.11	3.05	3.55

E - PERFORMANCE - CURVES

TEST CONDITIONS:		CECOMAF			(Condensing temperature 45°C (+113°F))					
@115V1600RPM		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)	99	25	29	21	0.36	0.34	4.75	1.20	1.39	
-30 (-22)	142	36	42	26	0.42	0.49	5.49	1.38	1.61	
-25 (-13)	194	49	57	31	0.47	0.67	6.27	1.58	1.84	
-20 (- 4)	256	64	75	36	0.53	0.89	7.13	1.80	2.09	
-15 (+ 5)	329	83	96	40	0.59	1.15	8.11	2.04	2.38	
-10 (+14)	415	105	122	45	0.65	1.45	9.28	2.34	2.72	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 55°C (+131°F))					
@115V1600RPM		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)	75	19	22	21	0.33	0.28	3.58	0.90	1.05	
-30 (-22)	114	29	34	26	0.40	0.43	4.32	1.09	1.27	
-25 (-13)	161	41	47	32	0.48	0.62	5.01	1.26	1.47	
-20 (- 4)	218	55	64	38	0.56	0.83	5.70	1.44	1.67	
-15 (+ 5)	284	72	83	44	0.66	1.09	6.43	1.62	1.88	
-10 (+14)	363	92	106	50	0.76	1.39	7.26	1.83	2.13	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 35°C (+95°F))					
@115V2000RPM		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	25	0.44	0.50	6.11	1.54	1.79	
-30 (-22)	214	54	63	30	0.48	0.69	7.02	1.77	2.06	
-25 (-13)	284	72	83	35	0.54	0.91	8.02	2.02	2.35	
-20 (- 4)	369	93	108	40	0.60	1.18	9.18	2.31	2.69	
-15 (+ 5)	468	118	137	45	0.65	1.51	10.54	2.66	3.09	
-10 (+14)	586	148	172	48	0.70	1.89	12.16	3.06	3.56	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 45°C (+113°F))					
@115V2000RPM		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)	126	32	37	26	0.42	0.44	4.81	1.21	1.41	
-30 (-22)	180	45	53	32	0.48	0.63	5.58	1.41	1.63	
-25 (-13)	245	62	72	38	0.56	0.85	6.36	1.60	1.86	
-20 (- 4)	323	81	95	45	0.63	1.12	7.21	1.82	2.11	
-15 (+ 5)	415	104	121	50	0.71	1.45	8.19	2.06	2.40	
-10 (+14)	523	132	153	56	0.78	1.83	9.33	2.35	2.73	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		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)	97	24	28	27	0.40	0.37	3.64	0.92	1.07	
-30 (-22)	146	37	43	33	0.48	0.56	4.41	1.11	1.29	
-25 (-13)	205	52	60	40	0.58	0.78	5.11	1.29	1.50	
-20 (- 4)	276	69	81	48	0.67	1.05	5.80	1.46	1.70	
-15 (+ 5)	359	91	105	55	0.77	1.38	6.53	1.64	1.91	
-10 (+14)	458	115	134	62	0.85	1.76	7.34	1.85	2.15	

TEST CONDITIONS: @115V3000RPM		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)	232	58	68	38	0.59	0.74	6.02	1.52	1.76	
-30 (-22)	318	80	93	46	0.68	1.02	6.83	1.72	2.00	
-25 (-13)	422	106	124	55	0.78	1.35	7.72	1.94	2.26	
-20 (- 4)	546	138	160	63	0.88	1.75	8.75	2.20	2.56	
-15 (+ 5)	693	175	203	70	0.98	2.23	9.97	2.51	2.92	
-10 (+14)	867	218	254	76	1.07	2.80	11.43	2.88	3.35	

TEST CONDITIONS: @115V3000RPM		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)	190	48	56	40	0.59	0.66	4.82	1.22	1.41	
-30 (-22)	270	68	79	49	0.69	0.94	5.52	1.39	1.62	
-25 (-13)	365	92	107	59	0.81	1.27	6.22	1.57	1.82	
-20 (- 4)	479	121	140	69	0.94	1.67	6.97	1.76	2.04	
-15 (+ 5)	615	155	180	78	1.07	2.15	7.83	1.97	2.29	
-10 (+14)	774	195	227	87	1.19	2.71	8.85	2.23	2.59	

TEST CONDITIONS: @115V3000RPM		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)	146	37	43	40	0.61	0.56	3.68	0.93	1.08	
-30 (-22)	220	55	64	50	0.71	0.83	4.41	1.11	1.29	
-25 (-13)	307	77	90	61	0.84	1.17	5.05	1.27	1.48	
-20 (- 4)	411	103	120	73	0.98	1.57	5.67	1.43	1.66	
-15 (+ 5)	534	135	156	85	1.13	2.05	6.31	1.59	1.85	
-10 (+14)	679	171	199	96	1.28	2.61	7.04	1.77	2.06	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4500RPM		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)	345	87	101	59	0.82	1.10	5.82	1.47	1.71	
-30 (-22)	465	117	136	71	0.95	1.49	6.57	1.66	1.92	
-25 (-13)	610	154	179	83	1.07	1.96	7.39	1.86	2.16	
-20 (- 4)	785	198	230	94	1.17	2.52	8.33	2.10	2.44	
-15 (+ 5)	992	250	291	105	1.28	3.19	9.46	2.38	2.77	
-10 (+14)	1235	311	362	115	1.40	3.98	10.80	2.72	3.17	

TEST CONDITIONS: @115V4500RPM		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)	290	73	85	62	0.83	1.01	4.68	1.18	1.37	
-30 (-22)	401	101	117	75	0.99	1.39	5.33	1.34	1.56	
-25 (-13)	535	135	157	89	1.13	1.86	5.99	1.51	1.75	
-20 (- 4)	695	175	204	104	1.26	2.42	6.68	1.68	1.96	
-15 (+ 5)	885	223	259	118	1.39	3.09	7.48	1.88	2.19	
-10 (+14)	1109	280	325	132	1.53	3.88	8.42	2.12	2.47	

TEST CONDITIONS: @115V4500RPM		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)	233	59	68	65	0.93	0.89	3.57	0.90	1.05	
-30 (-22)	335	84	98	79	1.09	1.27	4.27	1.08	1.25	
-25 (-13)	457	115	134	94	1.23	1.74	4.88	1.23	1.43	
-20 (- 4)	603	152	177	111	1.36	2.30	5.47	1.38	1.60	
-15 (+ 5)	776	196	227	128	1.50	2.97	6.06	1.53	1.78	
-10 (+14)	980	247	287	145	1.64	3.76	6.73	1.70	1.97	

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 42° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		