

COMPRESSOR DEFINITION

Designation	VEM X9C
Nominal Voltage/Frequency	230 V 40-150 Hz
Engineering Number	513903022

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	1/5	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	220	[ml] (7.44 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.59	[kg] (16.73 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	16.07	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	16.07	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (40/150 Hz)	2.10/2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (40/150 Hz)	2.10/2.10	[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	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]
162	41	47	36	0.29	0.62	4.55	1.15	1.33

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]
215	54	63	44	0.34	0.82	4.88	1.23	1.43

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]
271	68	79	54	0.41	1.03	5.01	1.26	1.47

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]
409	103	120	79	0.58	1.56	5.16	1.30	1.51

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]
573	144	168	115	0.83	2.18	4.97	1.25	1.46

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]
-35	(-31)	121	30	35	21	0.18	0.39	5.65	1.42	1.65
-30	(-22)	164	41	48	25	0.21	0.53	6.47	1.63	1.90
-25	(-13)	215	54	63	29	0.24	0.69	7.37	1.86	2.16
-20	(- 4)	275	69	81	33	0.27	0.88	8.40	2.12	2.46
-15	(+ 5)	347	87	102	36	0.29	1.12	9.62	2.42	2.82
-10	(+14)	432	109	126	39	0.31	1.39	11.07	2.79	3.25

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]
-35	(-31)	103	26	30	22	0.18	0.36	4.61	1.16	1.35
-30	(-22)	142	36	42	27	0.22	0.49	5.23	1.32	1.53
-25	(-13)	188	47	55	32	0.26	0.65	5.88	1.48	1.72
-20	(- 4)	243	61	71	37	0.30	0.85	6.61	1.66	1.94
-15	(+ 5)	309	78	91	41	0.33	1.08	7.46	1.88	2.19
-10	(+14)	388	98	114	46	0.37	1.36	8.51	2.14	2.49

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]
-35	(-31)	83	21	24	23	0.19	0.32	3.58	0.90	1.05
-30	(-22)	119	30	35	28	0.24	0.45	4.19	1.05	1.23
-25	(-13)	161	41	47	34	0.28	0.61	4.76	1.20	1.39
-20	(- 4)	212	53	62	40	0.33	0.81	5.35	1.35	1.57
-15	(+ 5)	273	69	80	45	0.37	1.05	6.03	1.52	1.77
-10	(+14)	346	87	101	51	0.41	1.33	6.83	1.72	2.00

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]
-35	(-31)	163	41	48	27	0.22	0.52	5.96	1.50	1.74
-30	(-22)	220	55	65	33	0.26	0.71	6.75	1.70	1.98
-25	(-13)	289	73	85	38	0.31	0.93	7.64	1.93	2.24
-20	(- 4)	372	94	109	43	0.35	1.20	8.68	2.19	2.54
-15	(+ 5)	470	119	138	48	0.39	1.51	9.92	2.50	2.91
-10	(+14)	586	148	172	52	0.42	1.89	11.41	2.87	3.34

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)	136	34	40	29	0.23	0.47	4.78	1.21	1.40
-30	(-22)	189	48	56	35	0.28	0.66	5.46	1.37	1.60
-25	(-13)	253	64	74	41	0.34	0.88	6.14	1.55	1.80
-20	(- 4)	329	83	97	48	0.40	1.15	6.90	1.74	2.02
-15	(+ 5)	420	106	123	54	0.45	1.47	7.77	1.96	2.28
-10	(+14)	526	133	154	60	0.50	1.84	8.81	2.22	2.58

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)	109	27	32	29	0.24	0.41	3.68	0.93	1.08
-30	(-22)	158	40	46	36	0.30	0.60	4.37	1.10	1.28
-25	(-13)	216	54	63	43	0.36	0.82	4.99	1.26	1.46
-20	(- 4)	285	72	84	51	0.43	1.09	5.60	1.41	1.64
-15	(+ 5)	368	93	108	59	0.49	1.41	6.25	1.57	1.83
-10	(+14)	464	117	136	66	0.55	1.78	6.98	1.76	2.04

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)	205	52	60	34	0.28	0.66	6.05	1.52	1.77
-30	(-22)	277	70	81	41	0.33	0.89	6.82	1.72	2.00
-25	(-13)	363	92	107	47	0.38	1.17	7.68	1.94	2.25
-20	(- 4)	467	118	137	54	0.43	1.50	8.67	2.19	2.54
-15	(+ 5)	590	149	173	60	0.47	1.90	9.86	2.48	2.89
-10	(+14)	735	185	215	65	0.51	2.37	11.27	2.84	3.30

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)	172	43	50	35	0.29	0.60	4.89	1.23	1.43
-30	(-22)	238	60	70	43	0.34	0.83	5.54	1.40	1.62
-25	(-13)	318	80	93	51	0.40	1.11	6.21	1.56	1.82
-20	(- 4)	414	104	121	59	0.46	1.44	6.94	1.75	2.03
-15	(+ 5)	527	133	154	68	0.52	1.84	7.77	1.96	2.28
-10	(+14)	660	166	193	75	0.57	2.31	8.76	2.21	2.57

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2000RPM		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)	138	35	41	36	0.30	0.53	3.78	0.95	1.11	
-30 (-22)	199	50	58	45	0.36	0.76	4.46	1.13	1.31	
-25 (-13)	272	69	80	54	0.42	1.04	5.08	1.28	1.49	
-20 (- 4)	359	90	105	64	0.49	1.37	5.67	1.43	1.66	
-15 (+ 5)	462	116	135	73	0.56	1.77	6.29	1.58	1.84	
-10 (+14)	583	147	171	83	0.63	2.24	6.98	1.76	2.05	

TEST CONDITIONS: @220V3000RPM		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)	314	79	92	50	0.40	1.00	6.31	1.59	1.85	
-30 (-22)	422	106	124	60	0.47	1.35	7.00	1.76	2.05	
-25 (-13)	552	139	162	71	0.54	1.77	7.75	1.95	2.27	
-20 (- 4)	708	178	207	82	0.62	2.27	8.62	2.17	2.53	
-15 (+ 5)	893	225	262	93	0.69	2.87	9.66	2.43	2.83	
-10 (+14)	1110	280	325	102	0.75	3.58	10.92	2.75	3.20	

TEST CONDITIONS: @220V3000RPM		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)	265	67	78	52	0.41	0.92	5.17	1.30	1.51	
-30 (-22)	365	92	107	63	0.48	1.27	5.79	1.46	1.70	
-25 (-13)	485	122	142	76	0.57	1.69	6.39	1.61	1.87	
-20 (- 4)	628	158	184	89	0.66	2.19	7.03	1.77	2.06	
-15 (+ 5)	798	201	234	103	0.76	2.79	7.75	1.95	2.27	
-10 (+14)	999	252	293	116	0.84	3.50	8.62	2.17	2.53	

TEST CONDITIONS: @220V3000RPM		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)	216	54	63	53	0.42	0.82	4.02	1.01	1.18	
-30 (-22)	307	77	90	65	0.50	1.17	4.71	1.19	1.38	
-25 (-13)	416	105	122	79	0.59	1.59	5.30	1.34	1.55	
-20 (- 4)	546	138	160	94	0.69	2.09	5.84	1.47	1.71	
-15 (+ 5)	701	177	205	110	0.80	2.69	6.38	1.61	1.87	
-10 (+14)	884	223	259	126	0.91	3.39	6.99	1.76	2.05	

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]	[W/W]
-35 (-31)	456	115	134	77	0.59	1.46	5.90	1.49	1.73	
-30 (-22)	604	152	177	92	0.70	1.94	6.52	1.64	1.91	
-25 (-13)	783	197	229	109	0.81	2.51	7.22	1.82	2.11	
-20 (- 4)	998	251	292	125	0.92	3.21	8.02	2.02	2.35	
-15 (+ 5)	1252	316	367	140	1.03	4.03	8.98	2.26	2.63	
-10 (+14)	1552	391	455	153	1.12	5.01	10.16	2.56	2.98	

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]	[W/W]
-35 (-31)	393	99	115	82	0.62	1.37	4.85	1.22	1.42	
-30 (-22)	531	134	155	98	0.73	1.84	5.41	1.36	1.59	
-25 (-13)	696	175	204	116	0.86	2.42	5.96	1.50	1.75	
-20 (- 4)	893	225	262	136	1.00	3.11	6.55	1.65	1.92	
-15 (+ 5)	1128	284	330	156	1.14	3.94	7.22	1.82	2.12	
-10 (+14)	1403	354	411	175	1.28	4.91	8.03	2.02	2.35	

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]	[W/W]
-35 (-31)	329	83	96	86	0.65	1.25	3.80	0.96	1.11	
-30 (-22)	456	115	133	103	0.77	1.73	4.42	1.11	1.30	
-25 (-13)	606	153	178	123	0.91	2.31	4.96	1.25	1.45	
-20 (- 4)	786	198	230	145	1.06	3.00	5.45	1.37	1.60	
-15 (+ 5)	999	252	293	168	1.23	3.83	5.95	1.50	1.74	
-10 (+14)	1250	315	366	192	1.40	4.80	6.52	1.64	1.91	

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
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 42° up + 45° to Back		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted parallel BP+24°to Back		
3.3 PROCESS	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		