

COMPRESSOR DEFINITION

Designation	VEM Y4C
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513900038

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 53-150	[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 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	1/10	[hp]
2 Displacement	3.97	[cm ³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
3 Lubricant charge	220	[ml] (7.44 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO10	
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 53-150 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 (53/15 Hz)	2.10/2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (53/15 Hz)	2.10/2.10	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (53/15 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

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]
95	24	28	23	0.20	0.36	4.06	1.02	1.19

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]
113	28	33	29	0.23	0.43	3.96	1.00	1.16

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]
173	44	51	45	0.35	0.66	3.85	0.97	1.13

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]
266	67	78	71	0.54	1.01	3.74	0.94	1.10

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]
-35	(-31)	29	7	9	16	0.15	0.10	1.96	0.49	0.57
-30	(-22)	55	14	16	18	0.17	0.19	2.99	0.75	0.88
-25	(-13)	82	21	24	21	0.19	0.29	3.97	1.00	1.16
-20	(- 4)	115	29	34	23	0.21	0.40	4.98	1.26	1.46
-15	(+ 5)	154	39	45	25	0.22	0.54	6.10	1.54	1.79
-10	(+14)	203	51	59	27	0.24	0.71	7.42	1.87	2.17

E - PERFORMANCE - CURVES

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)	30	8	9	15	0.15	0.12	1.87	0.47	0.55
-30	(-22)	51	13	15	18	0.17	0.20	2.71	0.68	0.79
-25	(-13)	74	19	22	21	0.20	0.28	3.46	0.87	1.01
-20	(- 4)	101	25	30	24	0.22	0.39	4.21	1.06	1.23
-15	(+ 5)	135	34	39	27	0.24	0.51	5.03	1.27	1.47
-10	(+14)	177	45	52	29	0.26	0.68	6.00	1.51	1.76

TEST CONDITIONS: @220V1600RPM		CECOMAF Static			(Condensing temperature 65°C (+149°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)	11	3	3	13	0.14	0.05	0.88	0.22	0.26
-30	(-22)	29	7	8	17	0.17	0.12	1.64	0.41	0.48
-25	(-13)	47	12	14	21	0.20	0.20	2.28	0.57	0.67
-20	(- 4)	70	18	20	25	0.23	0.30	2.87	0.72	0.84
-15	(+ 5)	98	25	29	28	0.25	0.42	3.49	0.88	1.02
-10	(+14)	135	34	40	32	0.28	0.57	4.24	1.07	1.24

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)	53	13	15	20	0.18	0.18	2.60	0.65	0.76
-30	(-22)	80	20	23	23	0.21	0.28	3.42	0.86	1.00
-25	(-13)	114	29	33	26	0.24	0.39	4.35	1.10	1.27
-20	(- 4)	156	39	46	29	0.26	0.54	5.39	1.36	1.58
-15	(+ 5)	206	52	60	32	0.27	0.72	6.54	1.65	1.92
-10	(+14)	266	67	78	34	0.29	0.93	7.79	1.96	2.28

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)	46	12	14	20	0.18	0.18	2.34	0.59	0.69
-30	(-22)	70	18	20	23	0.21	0.26	3.02	0.76	0.88
-25	(-13)	99	25	29	26	0.24	0.38	3.76	0.95	1.10
-20	(- 4)	134	34	39	29	0.26	0.51	4.55	1.15	1.33
-15	(+ 5)	177	45	52	33	0.28	0.68	5.40	1.36	1.58
-10	(+14)	227	57	66	36	0.30	0.87	6.31	1.59	1.85

E - PERFORMANCE - CURVES

TEST CONDITIONS:		CECOMAF			(Condensing temperature 65°C (+149°F))					
@220V2000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	26	7	8	19	0.17	0.11	1.37	0.34	0.40	
-30 (-22)	47	12	14	23	0.20	0.20	2.03	0.51	0.59	
-25 (-13)	72	18	21	26	0.23	0.30	2.69	0.68	0.79	
-20 (- 4)	101	25	30	30	0.26	0.43	3.36	0.85	0.98	
-15 (+ 5)	136	34	40	34	0.29	0.58	4.02	1.01	1.18	
-10 (+14)	177	45	52	38	0.32	0.76	4.69	1.18	1.38	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	101	26	30	33	0.29	0.35	3.07	0.77	0.90	
-30 (-22)	136	34	40	38	0.32	0.48	3.61	0.91	1.06	
-25 (-13)	185	47	54	44	0.36	0.65	4.13	1.04	1.21	
-20 (- 4)	248	62	73	51	0.39	0.86	4.79	1.21	1.40	
-15 (+ 5)	324	82	95	57	0.41	1.13	5.70	1.44	1.67	
-10 (+14)	413	104	121	60	0.44	1.44	7.01	1.77	2.05	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	81	20	24	32	0.27	0.31	2.51	0.63	0.74	
-30 (-22)	113	28	33	35	0.31	0.43	3.25	0.82	0.95	
-25 (-13)	157	40	46	41	0.36	0.60	3.83	0.97	1.12	
-20 (- 4)	214	54	63	48	0.39	0.82	4.41	1.11	1.29	
-15 (+ 5)	282	71	83	55	0.43	1.08	5.11	1.29	1.50	
-10 (+14)	363	91	106	60	0.47	1.39	6.07	1.53	1.78	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 65°C (+149°F))					
@220V3000RPM		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	41	10	12	32	0.25	0.17	1.20	0.30	0.35	
-30 (-22)	72	18	21	34	0.30	0.30	2.23	0.56	0.65	
-25 (-13)	114	29	33	39	0.35	0.48	2.98	0.75	0.87	
-20 (- 4)	166	42	49	47	0.40	0.70	3.57	0.90	1.05	
-15 (+ 5)	230	58	67	55	0.44	0.97	4.15	1.05	1.22	
-10 (+14)	303	76	89	62	0.49	1.29	4.85	1.22	1.42	

E - PERFORMANCE - CURVES

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)	156	39	46	54	0.43	0.54	2.90	0.73	0.85
-30	(-22)	223	56	65	61	0.49	0.78	3.68	0.93	1.08
-25	(-13)	301	76	88	67	0.53	1.05	4.49	1.13	1.31
-20	(- 4)	391	99	115	73	0.57	1.36	5.36	1.35	1.57
-15	(+ 5)	496	125	145	78	0.60	1.73	6.35	1.60	1.86
-10	(+14)	617	155	181	82	0.63	2.16	7.49	1.89	2.19

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)	114	29	33	51	0.42	0.43	2.23	0.56	0.65
-30	(-22)	179	45	52	59	0.49	0.68	3.02	0.76	0.88
-25	(-13)	252	63	74	67	0.55	0.96	3.76	0.95	1.10
-20	(- 4)	334	84	98	74	0.60	1.28	4.51	1.14	1.32
-15	(+ 5)	428	108	125	81	0.64	1.64	5.30	1.34	1.55
-10	(+14)	535	135	157	86	0.68	2.05	6.18	1.56	1.81

TEST CONDITIONS: @220V4500RPM		CECOMAF Static			(Condensing temperature 65°C (+149°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)	56	14	16	45	0.35	0.23	1.24	0.31	0.36
-30	(-22)	122	31	36	56	0.45	0.51	2.12	0.54	0.62
-25	(-13)	193	49	56	66	0.53	0.81	2.90	0.73	0.85
-20	(- 4)	271	68	79	75	0.59	1.15	3.61	0.91	1.06
-15	(+ 5)	357	90	105	84	0.65	1.52	4.29	1.08	1.26
-10	(+14)	454	114	133	91	0.70	1.93	4.99	1.26	1.46

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 28° up + 25° 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 parallel BP+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		