

COMPRESSOR DEFINITION

Designation	VEM Y7C
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513900045

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	198 to 265 V	198 to 265 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 265 V	198 to 265 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	1/5	[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	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]
184	46	54	40	0.35	0.70	4.60	1.16	1.35

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]
224	56	66	49	0.40	0.85	4.55	1.15	1.33

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]
341	86	100	73	0.59	1.30	4.67	1.18	1.37

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]
513	129	150	118	0.83	1.96	4.34	1.09	1.27

E - PERFORMANCE - CURVES

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%		
	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
°C (°F)									
-35 (-31)	141	36	41	27	0.24	0.45	5.16	1.30	1.51
-30 (-22)	187	47	55	31	0.28	0.60	6.13	1.55	1.80
-25 (-13)	239	60	70	34	0.30	0.77	7.08	1.78	2.07
-20 (- 4)	302	76	88	37	0.33	0.97	8.10	2.04	2.37
-15 (+ 5)	382	96	112	41	0.35	1.23	9.32	2.35	2.73
-10 (+14)	486	122	142	44	0.37	1.56	10.85	2.73	3.18

E - PERFORMANCE - CURVES

TEST CONDITIONS:		CECOMAF			(Condensing temperature 45°C (+113°F))					
@220V1600RPM		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)	96	24	28	27	0.24	0.33	3.58	0.90	1.05	
-30 (-22)	144	36	42	31	0.28	0.50	4.55	1.15	1.33	
-25 (-13)	195	49	57	36	0.32	0.68	5.40	1.36	1.58	
-20 (- 4)	254	64	74	41	0.35	0.89	6.22	1.57	1.82	
-15 (+ 5)	327	82	96	46	0.38	1.14	7.14	1.80	2.09	
-10 (+14)	420	106	123	51	0.42	1.47	8.26	2.08	2.42	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 55°C (+131°F))					
@220V1600RPM		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)	68	17	20	27	0.23	0.26	2.47	0.62	0.72	
-30 (-22)	118	30	35	34	0.28	0.45	3.44	0.87	1.01	
-25 (-13)	167	42	49	40	0.33	0.63	4.19	1.05	1.23	
-20 (- 4)	221	56	65	46	0.37	0.84	4.81	1.21	1.41	
-15 (+ 5)	286	72	84	53	0.42	1.10	5.43	1.37	1.59	
-10 (+14)	368	93	108	60	0.48	1.41	6.15	1.55	1.80	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 35°C (+95°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)	163	41	48	34	0.30	0.52	4.80	1.21	1.41	
-30 (-22)	234	59	69	39	0.35	0.75	5.98	1.51	1.75	
-25 (-13)	306	77	90	43	0.38	0.99	7.10	1.79	2.08	
-20 (- 4)	385	97	113	47	0.40	1.24	8.23	2.07	2.41	
-15 (+ 5)	479	121	140	51	0.43	1.54	9.43	2.38	2.76	
-10 (+14)	593	149	174	55	0.45	1.91	10.79	2.72	3.16	

TEST CONDITIONS:		CECOMAF			(Condensing temperature 45°C (+113°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)	129	32	38	34	0.29	0.45	3.78	0.95	1.11	
-30 (-22)	191	48	56	40	0.34	0.67	4.74	1.20	1.39	
-25 (-13)	255	64	75	45	0.38	0.89	5.63	1.42	1.65	
-20 (- 4)	325	82	95	50	0.42	1.13	6.49	1.64	1.90	
-15 (+ 5)	410	103	120	55	0.45	1.43	7.41	1.87	2.17	
-10 (+14)	514	130	151	61	0.49	1.80	8.44	2.13	2.47	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	98	25	29	34	0.29	0.37	2.94	0.74	0.86	
-30 (-22)	153	38	45	41	0.34	0.58	3.72	0.94	1.09	
-25 (-13)	207	52	61	47	0.39	0.79	4.38	1.10	1.28	
-20 (- 4)	269	68	79	54	0.44	1.03	5.01	1.26	1.47	
-15 (+ 5)	344	87	101	61	0.49	1.32	5.65	1.42	1.66	
-10 (+14)	439	111	129	68	0.55	1.69	6.40	1.61	1.87	

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%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	252	64	74	52	0.44	0.81	4.82	1.22	1.41	
-30 (-22)	342	86	100	60	0.50	1.10	5.75	1.45	1.69	
-25 (-13)	452	114	132	67	0.55	1.45	6.81	1.72	1.99	
-20 (- 4)	585	147	171	74	0.59	1.88	7.97	2.01	2.34	
-15 (+ 5)	748	188	219	81	0.64	2.41	9.24	2.33	2.71	
-10 (+14)	945	238	277	89	0.69	3.05	10.61	2.67	3.11	

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)	194	49	57	52	0.42	0.67	3.70	0.93	1.08	
-30 (-22)	273	69	80	60	0.49	0.95	4.51	1.14	1.32	
-25 (-13)	367	93	108	68	0.55	1.28	5.39	1.36	1.58	
-20 (- 4)	481	121	141	76	0.61	1.68	6.32	1.59	1.85	
-15 (+ 5)	618	156	181	84	0.68	2.16	7.30	1.84	2.14	
-10 (+14)	785	198	230	94	0.75	2.75	8.33	2.10	2.44	

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)	158	40	46	53	0.44	0.60	2.98	0.75	0.87	
-30 (-22)	234	59	69	63	0.51	0.89	3.69	0.93	1.08	
-25 (-13)	319	80	94	72	0.57	1.21	4.42	1.11	1.30	
-20 (- 4)	419	106	123	82	0.64	1.60	5.15	1.30	1.51	
-15 (+ 5)	539	136	158	92	0.71	2.06	5.87	1.48	1.72	
-10 (+14)	683	172	200	104	0.81	2.62	6.58	1.66	1.93	

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)	365	92	107	79	0.63	1.17	4.61	1.16	1.35
-30	(-22)	487	123	143	88	0.69	1.56	5.54	1.40	1.62
-25	(-13)	639	161	187	97	0.76	2.05	6.58	1.66	1.93
-20	(- 4)	818	206	240	106	0.82	2.63	7.70	1.94	2.26
-15	(+ 5)	1025	258	300	115	0.89	3.30	8.89	2.24	2.60
-10	(+14)	1259	317	369	124	0.96	4.06	10.11	2.55	2.96

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)	303	76	89	80	0.62	1.05	3.78	0.95	1.11
-30	(-22)	406	102	119	91	0.70	1.41	4.51	1.14	1.32
-25	(-13)	535	135	157	101	0.79	1.86	5.31	1.34	1.56
-20	(- 4)	687	173	201	111	0.87	2.40	6.18	1.56	1.81
-15	(+ 5)	862	217	253	122	0.96	3.01	7.09	1.79	2.08
-10	(+14)	1060	267	311	132	1.04	3.71	8.01	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)	244	61	71	79	0.63	0.93	3.08	0.78	0.90
-30	(-22)	340	86	100	92	0.72	1.29	3.69	0.93	1.08
-25	(-13)	456	115	134	105	0.81	1.74	4.35	1.10	1.27
-20	(- 4)	593	149	174	117	0.90	2.26	5.05	1.27	1.48
-15	(+ 5)	747	188	219	130	0.99	2.86	5.76	1.45	1.69
-10	(+14)	920	232	270	143	1.09	3.53	6.46	1.63	1.89

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	8.1 +0.10/+0.00	[mm]	(0.319" +0.004"/+0.000")
3.1.1 Material	Copper(OD)		
3.1.2 Shape	Slanted 42° up + 45° 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 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		